SEP 5 1957

SEPTEMBER 1957

FIREMEN

SIXTY-SECOND YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

VOLUME 24, NUMBER 9. COPYRIGHT 1957 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

New Orleans Welcomes 81th I.F.C. Conference

(See page 16)

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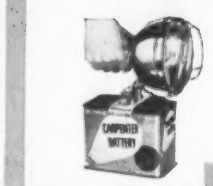
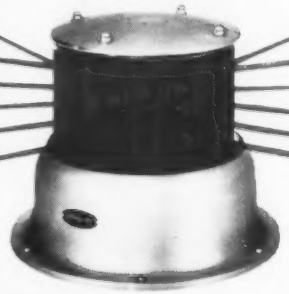


The NEW CARPENTER "RAR"

Clears the way... FAST!

The high-power RAR Rotating Beacon is specially designed for fire, state & city police, ambulance, and other requirements where extreme dependability and intensity are essential.



A powerful, colored spot of light rotates horizontally projecting its beam through a full 360°. Mounts on any vehicle roof or may be used as stationary beacon. Sturdy simchrome construction. RAR (Standard Size).....$49.50

RAR Sr. Full chrome over bronze and brass.....$62.50
(Large size as illustrated)

Cap protects lens of every RAR

A Light for Every Emergency Need...

For nearly half a century, Carpenter-Lights have been first choice of fire and police departments, of utility companies, of industry. When you need beacons, portable lights, spotlights, or stand-by emergency lights . . . *You need Carpenter-Lights.*

Complete catalog on request.

CARPENTER
MANUFACTURING COMPANY
218 Bradley Street • Somerville 45, Mass.

Specify AKRON

"AMERICA'S BEST FIRE EQUIPMENT"

TWO INLET MULTIVERSAL

Light weight — 55 lbs. Handwheel adjustment. Perfectly balanced. Relieves manpower for other duties. Low friction loss. Akron stream shapers for non-feathering stream. Can be used with FOG-HOG for complete versatility. Style #491.

"FOG-HOG" NOZZLE

DELUGE

With all-round indicator for preselection of stream. Tremendous gallonage and projection. Use on ladder pipes, deluge guns, deck pipes. All degrees of fog, straight stream or shut-off instantly available. Bind-free operation at all pressures. ROCKER LUG—available in 500, 700, 1000, 1350 and 2500 G.P.M. sizes.

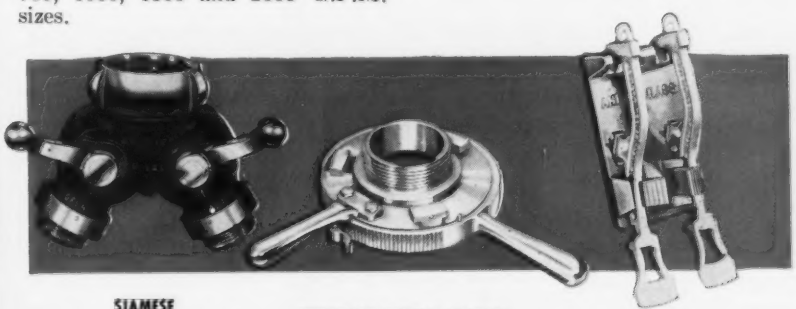
"P.D.Q." NOZZLE

HOSE LINE

Adjustable through all angles of solid fog and straight stream. Akron quality ball shut-off. Guaranteed gallonage. Positive stream positioning indicators. Swiveling "ROCKER LUG" base — handle is always up. Corrugated no-slip grip. 1", 1½" and 2½" sizes.

"FORGEX" COUPLINGS

Drop-forged for strength. Light weight — perfect companion for light weight hose. "ROCKER LUG" — Higbee Indicators. Tapered hose bowl — stays on hose under all pressures. Unconditionally guaranteed to give complete satisfaction. Style #88



SIAMESE

Two and one-half inch FULL FLOW Ball-Valve Siamese. One 2½" female inlet . . . two 1½" male outlets. Solid red brass casting. Operating pressures to 500 lbs. The industry's best made and most widely used Siamese. Style #481.

UNIVERSAL THREAD ADAPTER

Instantaneous connection to all thread sizes. Your own thread on male end. Moveable bronze jaws provide adjustable female. Push handles together and watertight connection is made. Light weight — 7 lbs. No wrenches needed. Style #575.

SPANNER WRENCH HOLDER

Wrenches ready for immediate use. Complete with two No. 10 spanner wrenches. Wrenches always in place, one hand operation. Style #448.

AKRON BRASS

FIRE FIGHTING EQUIPMENT

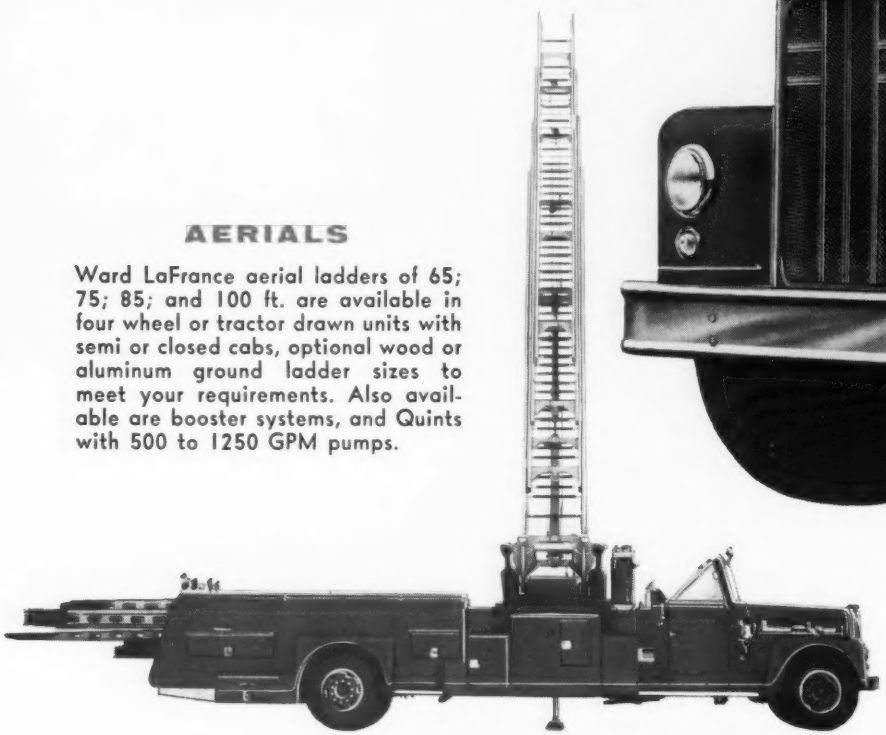
AKRON BRASS MANUFACTURING CO., INC.
WOOSTER, OHIO

WARD LaFRANCE

FIRE APPARATUS

AERIALS

Ward LaFrance aerial ladders of 65; 75; 85; and 100 ft. are available in four wheel or tractor drawn units with semi or closed cabs, optional wood or aluminum ground ladder sizes to meet your requirements. Also available are booster systems, and Quints with 500 to 1250 GPM pumps.

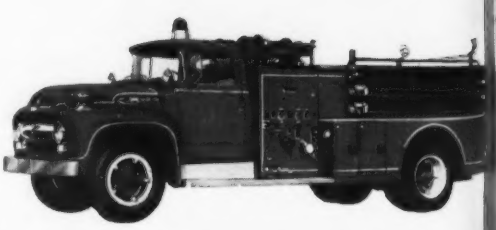


FIREBALL SPECIAL

Limited budget? Custom built rigs too high? The Ward LaFrance Fireball Special is your answer. Available with either 500 or 750 GPM pumps, and is designed to give smaller cities and volunteer companies a completely custom built apparatus. Also available with three stage high pressure pumps, open and closed cabs.

COMMERCIAL APPARATUS

Do you plan on having fire equipment mounted on a commercial truck chassis? If so, consider a Ward LaFrance engineered job. All of the features of our regular custom line regarding fire pumps, tanks, bodies, compartments, etc., can be incorporated on a commercial truck furnished by you. Just let us know your requirements.



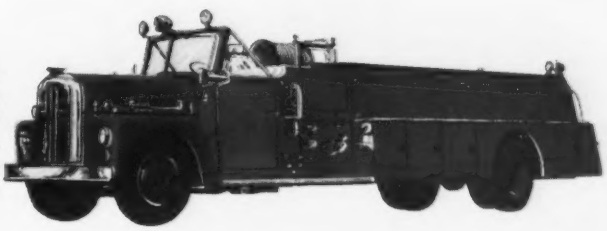
See us at the I.A.F.C. Conference in New Orleans, La. SEPT. 9, 10, 11 & 12. BOOTHS 91 AND 92.

PUMPERS

These are the foundation for any fire department. Ward LaFrance triple combination pumpers have two important features: (1) a rugged, dependable engine with an excess of torque and horsepower and (2) the most modern fire pump in the world. Fully automatic plus manual pump controls. Split housing design simplifies maintenance problems. Variations in tank sizes are available as well as a variety of cabs including 3-man semi-cab, 3-man closed cab, 7-man canopy cab or a 5-man sedan cab. Three stage high pressure pumps or high pressure booster pumps are optional extras available.

QUADRUPLES

The Ward LaFrance Quad offers four complete banks of ladders, booster tank and booster system, plus variations in engine and pump sizes from 500 to 1250 GPM. In addition ample hose body space is provided. Available in both running board and cabinet style bodies. Three stage high pressure pumps available as optional equipment.



WARD LaFRANCE
TRUCK CORPORATION

GENERAL OFFICE & FACTORY: Grand Central Ave., Elmira, N.Y. Tel. 3-5631 DIRECT FACTORY BRANCH 139th St., & Bruckner Blvd., New York 54, N.Y. Tel CYpress 2-3300 EXPORT: Ward Lafrance International, Inc., Elmira, N.Y., U.S.A. Cable Address: "Wardtruck"

FIRE APPARATUS MANUFACTURERS FOR OVER 39 YEARS

Let's talk DOLLARS and SENSE about

EUREKA

Multiple-Woven

THE BEST is usually *least expensive in the long run.* And that goes double for fire hose! Here's why:

Your dollar spent for the lowest-priced approved hose can be divided over an average service life of about 4 years . . . or 25 cents per year. Suppose, however, you invest *not one* dollar but *two dollars* in the same footage of premium quality Eureka MULTIPLE-WOVEN Hose. According to the experience of users, your two-dollar investment in this uniquely constructed hose may well be spread over a useful service life of 16, 20 or even 24 years . . . or 8 to 12 cents per year!

In the long run, then, Eureka MULTIPLE-WOVEN may easily cut your hose expenditures *by more than half!* At the same time you'll have a hose you know won't let you down . . . won't warp or writhe excessively . . . and *will* deliver maximum pressure to the nozzle! *There's no other hose like it.* Specify it on your next order! You'll have the added satisfaction of dealing with a *specialist* in fire hose!

All plies of Eureka Multiple-Woven Hose are woven *and interwoven* simultaneously, leaving no space between plies for collection of water, dirt or mildew.

"For greater protection to life and property"

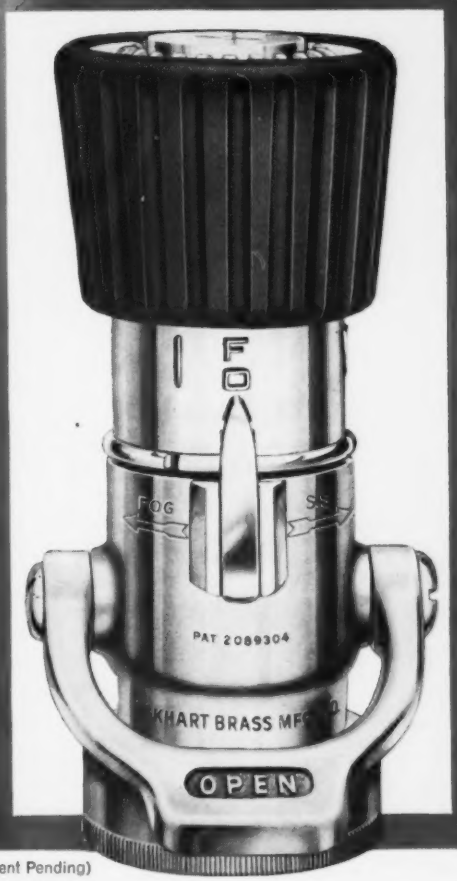
EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

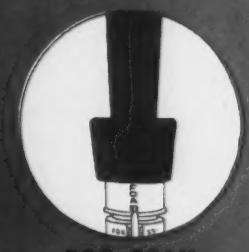
1 Market Street • Passaic, New Jersey *Division of* United States Rubber

1 IN ONE NOZZLE

ELKHART'S NEW "F" Series Select-O-Stream MYSTERY NOZZLE you get FOG FOAM

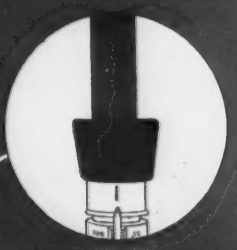


(Patent Pending)
L-200 SOS-F

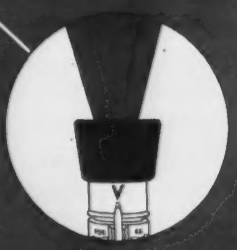


FOG FOAM
No Extra Nozzle Attachments

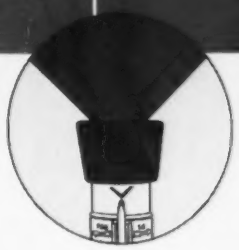
PLUS ALL THESE



STRAIGHT STREAM



30° FOG



PROTECTIVE WATER CURTAIN

"F" Series Select-O-Stream MYSTERY NOZZLE

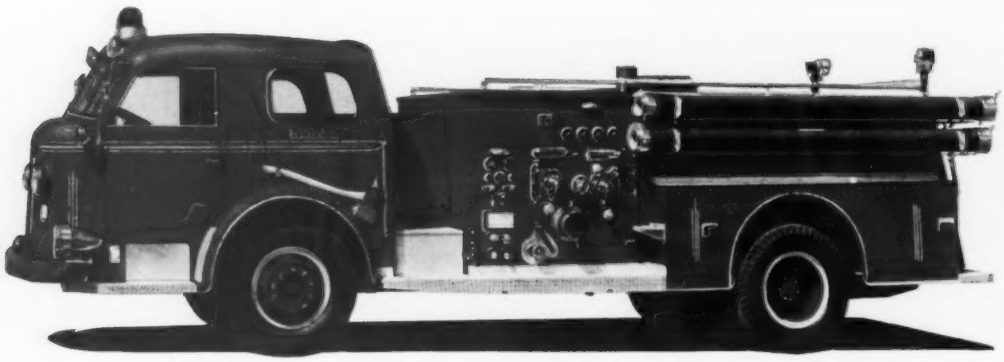
Now... you can select FOG FOAM on the "F" Series Select-O-Stream Mystery Nozzle in the same quick way you choose Straight Stream, 30° Fog, Protective Water Curtain or any degree of stream in between. Fog Foam is a built-in selection feature of Elkhart's "F" Series Select-O-Stream Mystery Nozzle. *No extra nozzle attachments.* Remember — Elkhart Select-O-Stream gives you more!

"F" Series Select-O-Stream Mystery Nozzles are available from 1" through all sizes including our large 2500 gallon Jumbo King Mystery Nozzle.

ELKHART BRASS MFG. CO., Inc.

MORE THAN HALF A CENTURY OF FIRE FIGHTING PROGRESS — ELKHART, INDIANA

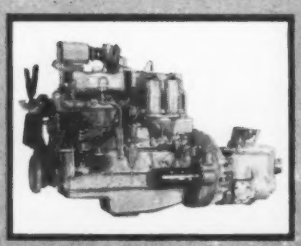
These features make AMERICAN LaFRANCE



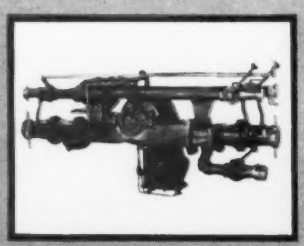
● Spartan, 1000 g.p.m., Class A Triple Combination Pumper.

Over Twenty Special Features Insure Outstanding Performance, Safety, Utility and Reliability

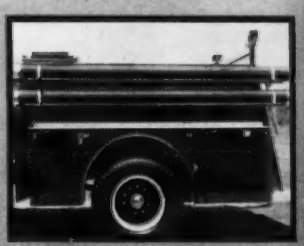
The American LaFrance Series 800 Deluxe fire engines are built to continue our reputation for producing "The World's Finest Fire Engines." Every feature to provide you a better fire engine is engineered into the design of the Series 800. The driver has a maximum of visibility, with easy steering and short turning radius in the cab-ahead-of-engine design. And safety, too, is a service-proved feature. The *Twin Flow* pump with bronze housing has six special features for producing more gallons of water and longer service life.



Seven different engines afford a wide range of power selection (175 b.h.p. to 330 b.h.p.) to give you top road and pump performance. These engines have proved their stamina and reliability in the fire service.



The TWINFLOW pump is parallel-series 2-stage, centrifugal. It is produced in all N.B.F.U. and I. A. F. C. capacity ratings for Class A performance. Also, for pressures to 600 p.s.i. Pump controls for left or right side operation are optional.



Nine equipment compartments are provided. Seven are enclosed, waterproof type with lights in the compartments. The side compartments shown above are of ample size for gas masks, resuscitators or inhalators.

● *Write today for the new brochure illustrating and describing these important features.*

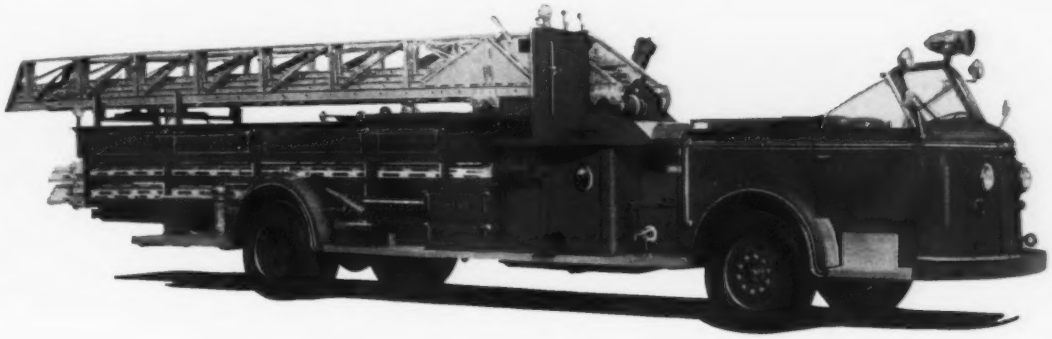
AMERICAN LaFRANCE CORPORATION

ELMIRA, NEW YORK, U. S. A.

LaFRANCE FIRE ENGINE — FOAMITE LIMITED

TORONTO, 9, ONTARIO, CANADA

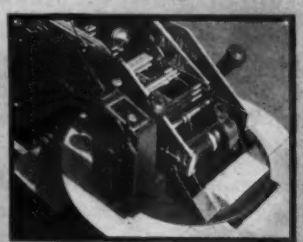
"Series 800" Deluxe your best fire engine buy



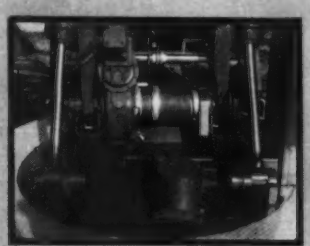
● Model 4-100 Aerial Ladder Truck

Eighteen Special Features Combine to Provide a Maximum of Safety and Maneuverability

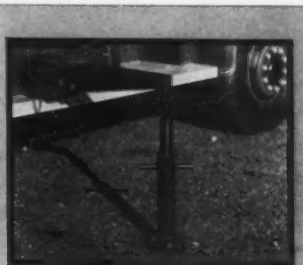
Today's fire fighting operations require a maximum of strength and stability with a sensitive, accurate control. The all-steel aerial ladder with all welded construction provides a maximum of strength and stability for rescue, water tower and fire service operation. The large 65 inch turntable which supports the ladder and the wide spread positive operating jacks provide unequalled operating stability. One man controls all operation of the aerial ladder by hydraulic power with all controls directional. For safety and dependability all piping is heavy copper tubing — no synthetic rubber hose.



All controls for aerial ladder operation are housed in a weather proof pedestal. Three visual indicators are provided to automatically register the maximum recommended load at any angle and extension. Note the clear access to the ladder — an important safety feature.



The clean design under the ladder with access to the controls is shown above. Note the freedom from external piping, eliminating possible damage. Drilled passages are an added safety feature.

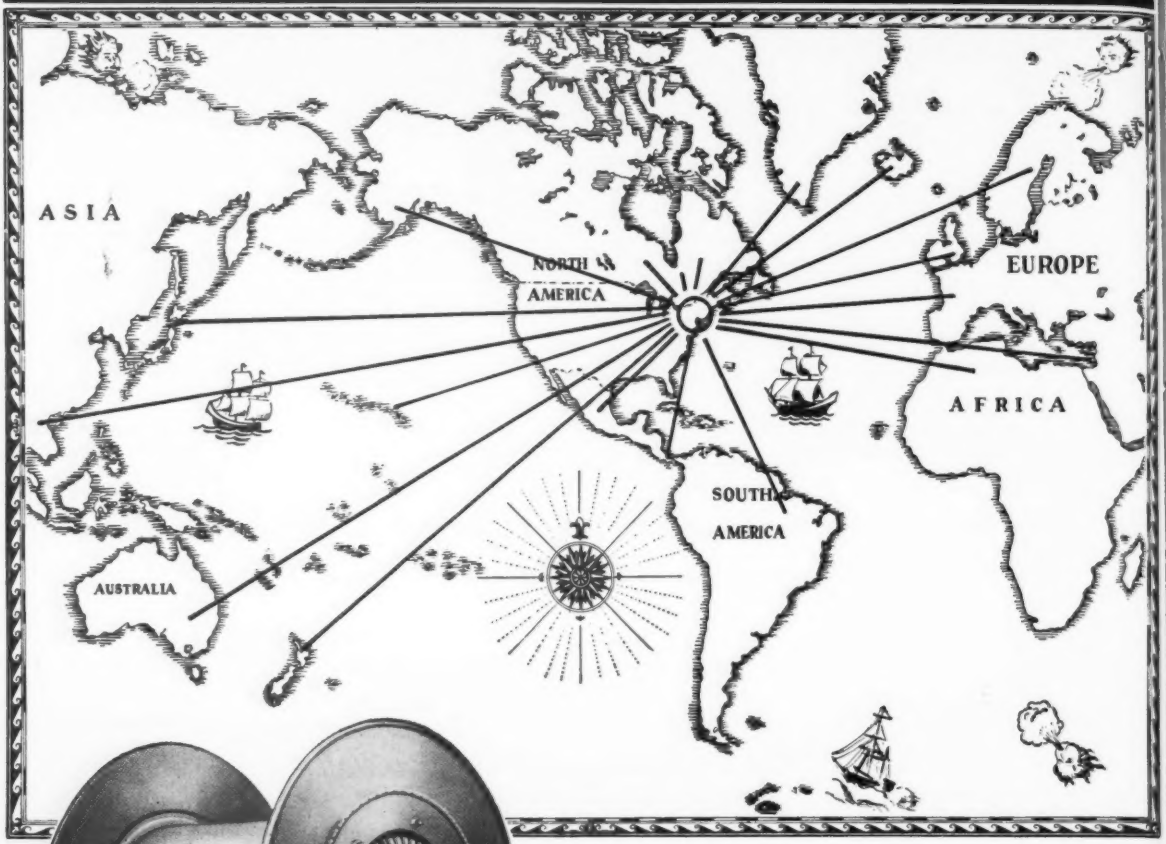


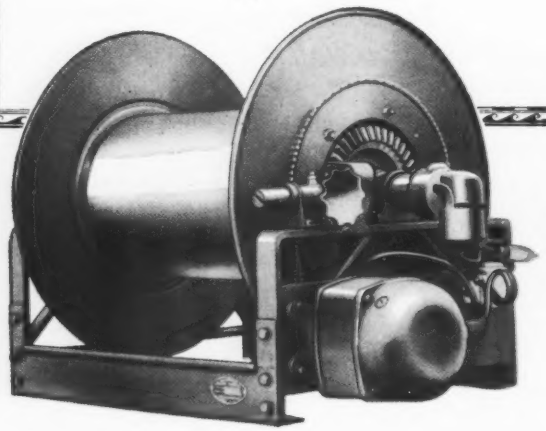
The wide spread ground jacks, 145 inches center to center across the chassis, provide a maximum of aerial ladder stability. They are positive when set and yet in an emergency the truck can be moved without retracting the jacks.

Our aerial truck brochure illustrates these and other important features - write for your copy today!

See the new Series 800 Deluxe pumpers and the 100-ft aerial ladder on display at the auditorium in New Orleans, September 9-15, during the I.A.F.C. Conference.

HANNAY...Greatest Name in HOSE REELS!





Designed by Firemen FOR Firemen!

Made by the leading manufacturer of hose reels for all types of service, and acclaimed by users as "the most dependable, efficient Hose Reel ever built."

Always ready *at the nozzle* for INSTANT USE, whether all or only a few feet of hose is unreeled. Hub assembly provides full, uninterrupted flow. Ball bearing swing joint gives long, trouble-free service . . . does not carry the weight of the reel. There is a HANNAY Hose Reel to meet your specific requirements.

Visit us at Booth 62
84th Annual Conference
International Association
of Fire Chiefs,
New Orleans, La.

Sustaining Member

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

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MANUAL AND POWER OPERATED HOSE REELS FOR EVERY PURPOSE

39 models—and all have Four Wheel Drive control

No matter what particular type of unit you add to your department, you'll find it in the full line of FWD equipment, with all the "get-there" safety of Four Wheel Drive control!

This full-line experience helps FWD build better fire-fighting equipment. And, FWD has been building diversified fire apparatus for 42 years!

Every FWD unit has the balanced power and weight distribution and powered front axle that gives unmatched controllable traction for emergency conditions. It's the finest and safest fire protection you can give your community!

No matter what your equipment needs are, you'll find the best answer in the famous FWD line—with Four Wheel Drive control!

FWD

Builders of America's finest and safest fire apparatus

THE FOUR WHEEL DRIVE AUTO COMPANY • **Clintonville, Wisconsin** • *Canadian Factory* • Kitchener, Ontario

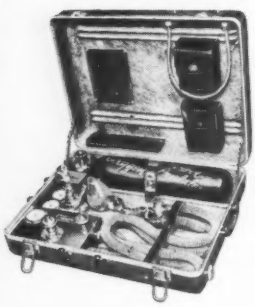
Increase your fire-fighting efficiency and safety with pr

M.S.A. MASKFONE

Self-contained communication system between two mask wearers or a wearer and a remote control point. No batteries or external power needed. Clear, crisp voice communication aids fire-fighting efforts by permitting instant relay of instructions, warnings. Write for details.

M.S.A. "ALL-SERVICE" MASK®

For fire-fighting efforts in air contaminated with smoke and gas, but where sufficient oxygen is present to support life, the "All-Service" Mask assures dependable breathing protection to the wearer. Available with the M.S.A. "Cleartone" Speaking Diaphragm for clear speech transmittal. Write for details.



M.S.A. PNEOLATOR

Assures maximum chances of recovery in all cases of arrested breathing. Provides oxygen at the preselected amount and pressure. There is no suction cycle—exhalation takes place by the normal passive return of respiratory muscles. Portable, rugged carrying case. Write for complete details.

M.S.A. STREAMLINED FIREMAN'S HELMET

Meets all requirements for fire-fighting hats—molded laminated plastic takes bumps and blows, withstands water, oil, heat, provides high dielectric strength. Streamlined design adds eye-appeal; shields are of tough, full-grained leather; winter lining zips in quickly. Write for details.

M.S.A. FOILLE BURN KIT

This kit is supplied with four aerosol sprays for quick, effective application to burned areas to ease pain and aid in the control of shock. Aerosol application is fast, effective, always ready. Kit also contains a complete assortment of first aid dressings and accessories. All units are assembled in a weather-proof steel case. Write for details.

M.S.A. FIRST AID KIT

Designed to meet all the requirements of fire department service. Contents of the M.S.A. Kit are individually wrapped in cellophane to protect against dirt, dust and moisture. All-weather steel case design provides an added safeguard. A complete supply of emergency treatment for immediate application is contained in unit packages for quick location, individual treatment. Write for details.

M.S.A. EXPLOSIMETER®

A compact, portable, easy-to-use instrument for checking suspected areas for explosive gases and vapors during fires and in general survey work. Body carrying straps, and one hand operation permit unhampered use. Easily read dial, rugged, simple to maintain. Write for details.

M.S.A. FLOOD LAMP

Safe in most gaseous atmospheres, this lamp combines brilliant, unfailing illumination with easy portability. Equipped with standard Edison Batteries in magnetically-locked steel container. Lamp housing is water and dustproof.

Call the M.S.A. man

on your safety problem

. . . his job is to help you

MSA

SAFETY EQUIPMENT HEADQUARTERS

proved M·S·A equipment

M·S·A CHEMOX®

This unit provides complete breathing protection for firefighters in oxygen-deficient or unbreathable atmospheres. Pure oxygen, released from the replaceable chemical canister the instant the wearer breathes, continues automatically in accordance with the breathing demands. This protection is provided for a minimum of 45 minutes under rugged working conditions.

The Chemox is light—only 13½ pounds. It is comfortable, designed for freedom of movement. The canisters can be stored indefinitely—are always ready. M.S.A. "Cleartone" Speaking Diaphragm, which permits clear communication between mask wearers, is standard equipment. Write for details.

M·S·A AIR-MASK

... available with AIR or OXYGEN

This unit, designed to bring respiratory protection and comfort to users in unbreathable atmospheres, supplies air or oxygen in exact accordance with breathing needs. During exhalation, the flow ceases—an economy measure that greatly lengthens service life.

Here are a few of the construction details—

... large, well-defined figures on pressure gauge for easy reading.

... the high pressure hose is made of wire-inserted neoprene for increased wear.

... the redesigned cylinder valve connects directly to the cylinder and the improved working parts of the valve provide greater serviceability and less maintenance.

... the nylon harness is easily adjusted and provides maximum strength. It is highly chemical and water-resistant.

... the new color scheme is an attractive dark green and yellow. This striking appearance makes it easier to spot men in working areas. Write for details.

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S.
Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

Mine Safety Appliances Company
201 North Braddock Avenue
Pittsburgh 8, Pennsylvania

Gentlemen:

☐ Please have a representative call.
☐ Please send me literature on the following MSA products:

☐ M.S.A. Maskfone	☐ M.S.A. "All-Service" Mask
☐ M.S.A. Pneolator	☐ M.S.A. Fireman's Helmet
☐ M.S.A. Foille Spray Kit	☐ M.S.A. First Aid Kit
☐ M.S.A. Explosimeter	☐ M.S.A. Flood Lamp
☐ M.S.A. Chemox	☐ M.S.A. Air Mask

Name_____ Position_____

Fire Department_____

Address_____

City_____ Zone____ State_____

HOWE DEFENDERS

CUSTOM-BUILT PUMPERS

Chosen by 2 more Metropolitan Areas

Custom-built HOWE DEFENDER Pumpers, serving to protect so many communities from fire losses, have been chosen by two more progressive fire departments. Twin 750-gallon pumpers (upper photo) have been delivered to Dallas, Tex., and below them is a 1,000-gallon pumper built to order for Tampa, Fla. . . . The rugged 1,000-gallon HOWE DEFENDER at Tampa is powered by a 245 horsepower Continental engine. Its canopy-type cab can accommodate six men, two riding in front and four on the full-width rear seat, reached by catwalk down the middle of truck body. This cab is also available with side entrances to rear seat on either or both sides. Full depth running board compartments back of fenders and four additional compartments house supplies and equipment . . . Dallas' 750-gallon pumpers are built on the HOWE DEFENDER chassis with Waukesha 240 h.p. engines. They have open-cab construction with full chrome plated V-type windshields. These trucks are equipped with wet water and foam proportioners and all the most modern fire-fighting devices. WATEROUS Centrifugal Pumps are standard on all HOWE equipment . . . Both Tampa and Dallas trucks have all the extras supplied by HOWE, such as *automatic pump prime indicators, ball type valves throughout*, and *booster tanks with completely removable tops* for cleaning and servicing . . . for the latest and best, it's HOWE!

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Firemen

Volume 24 — Number 9

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Cover Picture

Walt Disney for many years has demonstrated his remarkable ability for capturing public attention. The names of his cartoon characters have become household words in the United States and widely known in many other nations. This month's cover was prepared especially for FIREMEN magazine by Walt Disney Productions, since his organization is now giving attention to fire safety education through motion pictures. On page 22 of this issue is an article describing two entertaining and effective films which feature the Disney cartoon magic and are intended for use by fire departments and other organizations interested in teaching the fundamentals of fire prevention and safe practices against fire. Readers who want to obtain these films can get additional information by filling out and mailing the order blank on page 23.

Fall Conference

The NFPA Fall Conference is scheduled to be held at Richmond, Virginia, November 18–20, with the John Marshall Hotel serving as headquarters. A brief summary of the tentative program is included on page 60 of this issue. The tentative program has been published in the August-September issue of NFPA *Fire News*.

Resuscitators

A widely promoted type of resuscitator for fire department use produces breathing by means of a controlled electric current that stimulates the muscles of the diaphragm. We are now advised that there is some doubt as to the effectiveness of such devices when used on unconscious persons, and that the American Medical Association is soon to issue a statement on this subject. We caution our members against purchasing such devices pending the release of the statement from the American Medical Association.

Fire Prevention Week

Thousands of fire departments are now making final surveys of their scheduled activities for Fire Prevention Week, October 6–12. Each year, as entries are submitted to the NFPA Fire Prevention Contest, it is more and more evident that fire department personnel are improving their techniques of catching their public's attention through colorful activities of this historic week. Good use is being made of newspapers, radio and television stations, and sound public relations programs to stress the tremendous fire losses in the nation, particularly the numerous fire hazards and unsafe practices which lead to an annual loss of 11,000 to 12,000 deaths, innumerable burns and injuries.

Fire departments who have not obtained promotional materials for FP Week may have time to order the special colorful posters, bulletins, stickers and pamphlets prepared by NFPA. The July and August issues of FIREMEN magazine contained illustrations of these materials and an order blank. To assure delivery, orders must reach the NFPA Publications Department on or before September 20.

New Orleans Welcomes the 84th IAFC Conference

SUPERINTENDENT of Fire, Howard L. Dey, who heads the New Orleans, Louisiana, Fire Department, will be host chief for the 84th Annual Conference of the International Association of Fire Chiefs, September 8–12. Headquarters for the Conference will be the Roosevelt Hotel, but Conference meetings and displays of fire equipment will be at the Municipal Auditorium located approximately eight blocks away on North Rampart and St. Peter Streets.

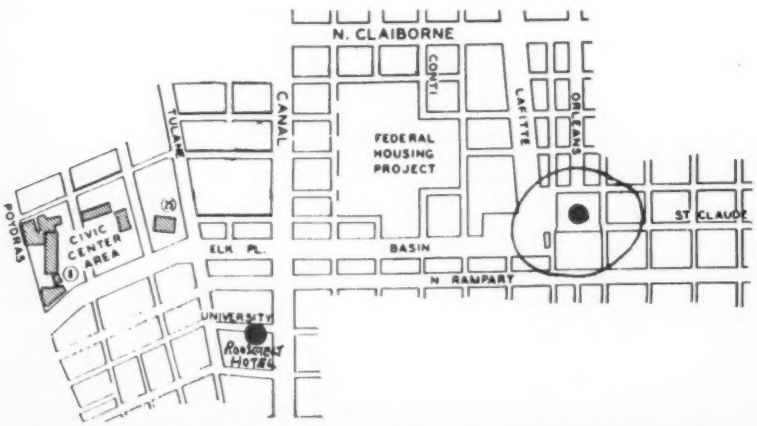
Fire chiefs and guests who attend this Conference will find that New Orleans and its fire department are undergoing considerable changes, most of which have been in process for a number of years. The City, renowned for its Mardi Gras, the Sugar Bowl, the historic French Quarter, old buildings and narrow streets, has a population of 630,000 and covers an area of 363.5 square miles including 26 miles of developed water front.

Superintendent Howard L. Dey, New Orleans Fire Department, Host Chief for the 84th IAFC Conference.

Back in 1946 Superintendent Dey assumed command of the New Orleans Fire Department. At about the same time the City was preparing a tremendous renovation and expansion program to bring housing, business and industrial facilities in the Port of New Orleans to adequate size for the enormous growth already beginning.

Since he assumed command, Chief Dey has brought about many improvements in fire department administration and facilities. Seven new fire stations have been added, including one which is nearing completion. Other new additions include a modern training tower, a carpenter shop in the Maintenance Division, a new machine shop and a new warehouse. During the past ten years the Department has purchased fifteen 1,000-gpm pumpers, with five more on order at the present time; eight 750-gpm pumpers; two 500-gpm pumpers; four 100-ft., four 85-ft., and one 65-ft. metal aerial ladders; a rescue unit, a hose tender, an oil truck and a special salvage unit with a 50-ft. metal aerial ladder.

Also included in the new equipment was a 3-way radio communications system for all apparatus, two radio transmitters, one at Fire Alarm Headquarters and one in the Superintendent's office at the Central Fire Station. At the same time



Sketch shows respective locations of Roosevelt Hotel, headquarters for Conference, and Municipal Auditorium (dot at right) where Conference meetings and displays of fire equipment will take place.

a new Radio Repair Headquarters was built.

The Department now has a telephone fire alarm system which was inaugurated March 9, 1957. The system is used on a rental basis from the Southern Bell Telephone Company. In the first phase of its development 382 boxes were installed. The second phase calls for an additional 362 boxes and the ultimate goal is 1,500 boxes throughout the City. A new Fire Alarm Office has been constructed on the 10th floor of New Orleans' new City Hall. Each fire station has a receiver teletype while Fire Department Headquarters and Fire Alarm Headquarters each have sending and receiving teletype machines. All dispatching of apparatus to fires is done by radio with follow-up on teletype. In addition, the new direct-dial telephone system is in operation between fire stations.

The fire department has 39 fire stations, one of which is located at the Moisant International Airport. This station features a new $50,000 crash truck recently placed in service. The Department has 47 engine companies and 12 hook and ladder companies in addition to the rescue unit, hose tender and other apparatus mentioned above. A water tower is on stand-by basis.

Altogether the fire department has 909 members, of which 844 are on the active fire fighting force. In addition to Superintendent Dey, the officer force includes an Assistant Superintendent, 3 Deputy Chiefs, 23 District Chiefs, 128 Captains and 120 Lieutenants. The Maintenance Division includes a Supervisor of Maintenance and an Automotive Mechanic Foreman while a Director of the Fire Prevention Division supervises 13 inspectors, 23 fire alarm operators and 6 other personnel.

Here are five new 1,000-gpm Mack pumpers recently accepted by the New Orleans Fire Department. Altogether fifteen 1,000-gpm pumpers have been purchased during the past 10 years.

New Orleans District Chiefs use these new Chevrolet station wagons for response to fire calls.

New Orleans has a 5-story fire department training tower of brick and concrete construction with modern classrooms and training facilities and sprinkler and alarm equipment. One floor is devoted to salvage training and there is also an elevator net for the training of rookie firemen. This training site also includes a drafting pit of 6,500 gallons capacity which is used for training in pump operation and acceptance tests on apparatus. The Training Division is commanded by a District Chief with two Training Captains. Three engines and a hook and ladder company report for training Monday through Friday each week.

Members and guests attending the 84th IAFC Conference are invited to visit the various fire department facilities. In touring the City they might also consider the fire problems which confront New Orleans fire fighters in sections like the historic French Quarter with its old buildings and narrow streets whose "Old World" charm may sometimes be a barrier to fire control.

(Left) View of the New Orleans water front showing the steamship *President* on which members and guests of the IAFC Conference will take a cruise.

Tribute to Fire Chief

SOME readers of FIREMEN may recall a news item a few months ago referring to the death of Fire Chief Frank J. Sandy of Piedmont, California. For those not familiar with the story, Chief Sandy, while responding to an alarm, was crushed by a fire engine just after reaching the fireground. According to the reports, his last command helped to save the life of a woman trapped in a blazing home. While lying critically injured on a pavement, he ordered first responding fire fighters to the attack. His last quoted words were, "Never mind me. Get that hose on the hydrant and put that fire out."

Chief Sandy was taken to the Merritt Hospital but died while his men were still fighting the blaze.

Chief Sandy had been one of the most enthusiastic supporters of Sparky's Fire Department on the West Coast and had been planning for an enrollment of six hundred boys and girls. His efforts in this respect were so outstanding that the NFPA planned to surprise him with an award during the recent 61st Annual Meeting at Los Angeles, California. Because of the Chief's untimely death, a commemorative certificate has been awarded by NFPA to the Piedmont Fire Dept.

Standardizing Fire Fighting Appliances

From an address given by Warren Y. Kimball, Manager, Fire Services Department, and Secretary, NFPA-IAFC Committee on Fire Department Equipment, at the 61st NFPA Annual Meeting, Los Angeles, California.

ONE of the results of the development and application of standards in the field of fire fighting apparatus and appliances should be a certain amount of uniformity in matters where analysis and experience points to good ways of accomplishing desired results. As with other forms of fire protection equipment, NFPA standards attempt to set minimum levels of performance.

As applied in most areas the standards recognize a minimum pumping capacity of 500 gpm as being the smallest size pumping engine capable of reliably coping with the average demand for fire fighting hose streams. But in thinking about equipment standardization we are not only thinking of reliability but also of uniformity and interchangeability in essential items that may be supplied by various manufacturers. The fire service long ago learned the importance of standard fire hose thread, but uniformity is not yet complete.

In an emergency service best results are obtained when we can think of standard operations and standard units of performance. This has been one of the goals toward which the NFPA Committee on Fire Department Equipment has inevitably marched. It tries to avoid design standards that limit the initiative of manufacturers and attempt to provide standards of performance.

Arguments may be advanced both for and against too much uniformity or standardization of fire apparatus and equipment. Admittedly, apparatus built more or less on a custom basis to meet the needs or whims of a local purchaser is more expensive than vehicles or equipment produced on the assembly line. The fire apparatus and equipment industry is a relatively small volume industry, but one where much attention is paid to new designs and custom built products. Some of the larger manufacturers of fire apparatus have developed models which provide features of standardized design which allow the purchasers certain options. If all apparatus needs were met by a strictly uniform assembly line production, the cost might be less, but at the expense of specialized engineering, experimentation and competition. In place of some 45 or 50 apparatus builders or assemblers distributed over the country and providing local maintenance service, we might have a situation more closely resembling the general automotive and trucking industry. The question is whether such a situation would be in the customers' best interests.

However, through the work of the Committee on Fire Department Equipment we undoubtedly have been moving toward a higher and more uniform standard of fire equipment as measured on a performance test basis.

We have established minimum levels of performance. These are measured by tests for road performance and pumping performance, including not only the rated capacity, but such matters as adequate inlet connections, flow requirements from water tank to pump. Discharge connections and outlets, standard gages and gage fittings, and a great many other details are specified, although insofar as possible it is left up to the builder to engineer the apparatus to give the desired result. For example, formerly we specified the minimum size piping from water tank to pump. A provision of this sort was deemed necessary because many builders were using ¾- or 1-in. piping, whereas 2- or 2½-in. piping was required to give the desired performance. The present standards specify the minimum flow that the connection must deliver and leave the piping to the builders or assemblers.

Pumping Capacities

A year ago, the confusion that existed for 15 or 16 years because of two systems of measuring pumping engine performance — the so-called Class A pumps and Class B pumps — was resolved by having all new pumpers meet the Class A performance standard. At present, the sizes of pumping engines recognized in Standard No. 19 are the 500, 750, 1,000, 1,250 and 1,500 (U.S. gpm) pumps, all rated at 150 psi net pump pressure, tested at draft with a lift not to exceed 10 ft. This is equivalent to supplying 2, 3, 4, 5 and 6, 2½-in. gated outlets each discharging 250 gpm.

Another place where standardization has been accomplished for pumping apparatus is in the thread for suction inlets and pumper suction hose. Formerly, only the 4½-in. suction hose was standard, and each make of pump employed a different thread dimension for the other required sizes of suction hose. This meant that suction hose could not be interchanged or interconnected between pumps. This has been corrected by amendment of NFPA Standard No. 194, "Fire Hose Threads."

While the standardization of 2½-in. fire hose threads in the United States is only complete in 24 states, NFPA standards call for pumper outlets to carry the American National Standard fire hose thread to which adapters would be attached if the local thread differs from the standard.

Cooperating Agencies

One reason why uniform standards are of tremendous benefit is that they represent the best experi-

ence of fire chiefs, representatives of the various fire insurance inspection and testing authorities including the National Board of Fire Underwriters and the Dominion Board of Insurance Underwriters. These organizations have tested and listed thousands of pumping engines. We also have the experience of the manufacturers cooperating through the Fire Apparatus Manufacturers' Association.

This wide basis of experience means that the standards represent an evaluation of literally hundreds of pertinent details, many of which would never be thought of by any fire department preparing its own specifications. For example, Standard No. 19 has long called for a gated inlet by which water could be supplied to a pumping engine without shutting down. Manufacturers sometimes left this essential connection off to save very few dollars where the purchaser failed to use Standard No. 19. Then the purchaser has had to buy a special fitting.

Naturally, there has been some comment by apparatus builders that Standard No. 19 has made them do some things they would not otherwise do. For example, this year the industry representatives professed to be concerned because the Committee felt that a fire engine should be able to accelerate to 35 mph in 30 seconds on level ground. This means, in effect, that under favorable road conditions it would reach this roaring speed, which your private car will do almost instantly, in the course of a full city block. It was felt that even if perhaps 3 to 5 per cent of the very small underpowered commercial chassis were "outlawed" this was necessary and desirable for good fire protection. However, it is fair to observe that most of the better builders of fire apparatus are prepared to meet the requirements of Standard No. 19 wholeheartedly when the purchaser indicates desire for compliance. The builder will also provide the special features required by the local purchaser in accordance with the special provisions attached to the Standard.

Rural Apparatus

One current problem of fire equipment standardization which is receiving considerable attention by the Committee is rural fire equipment. In this area there are varying recommendations and standards in effect in the jurisdictions of the various fire insurance rating and fire prevention bureaus. The NFPA Standard No. 192, "Fire Departments for Rural and Small Community Service," is widely used as a guide for the organization and equipment of rural and small community fire departments and, as such, is recommended by a number of insurance bureaus and state fire marshals. Revision of this standard is being made at the request of fire equipment manufacturers and others who have been concerned with the diversity of local standards in this type of equipment.

Equipment Development

It is only fair to point out that, while a certain degree of standardization is desirable, particularly with reference to minimum performance, a great deal of progress is being made in the development of improved equipment, and fire equipment standards must be under constant review. In several instances which might be cited, the standards were set somewhat below what many of the Committee members felt would be the desirable level of performance in recognition of economic factors and the availability of existing equipment. For example, Standard No. 191, which was adopted in 1954 and which covers portable pumps for fire department service, calls for 100 U. S. gpm at 60 psi at a weight not to exceed 200 lbs. without accessories. Larger flows and at higher pressures would be useful and should be possible when better lightweight power plants and pump components are generally available.

It would be highly desirable to have a lightweight portable pump which could provide full volume as a supply source for 500-gpm rural pumpers.

There are several other areas in which a degree of standardization may be expected to gradually improve performance. The NFPA Fire Services Department has been emphasizing the concept that fire nozzles are in effect water meters controlling the flow at effective pressures and that the nozzles, fire hose and pumping apparatus are not separate, unrelated items, but are components that must be balanced for good performance. Last year the NFPA-IAFC Committee on Fire Department Equipment conducted tests on heavy stream nozzles submitted by a number of manufacturers in order that fire departments might know the output of these nozzles at various pressures. It was found that in a number of cases the nozzle tips furnished were not compatible with the flows the nozzles could efficiently handle.

A related problem has been that the carrying capacity of standard sizes of fire hose has not been compatible with the flows from nozzles currently in use and considered desirable. This is not a new problem because John R. Freeman was concerned with this matter 70 years ago, but it has become more acute. Fortunately, new materials being introduced for fire hose construction permit a re-evaluation of desirable hose capacities with hose couplings using standard threads.

As a result of standardization brought about by the published standards and studies of the Committee, the purchasers of fire department equipment are getting much better equipment than they could get without reference to the published standards, and they are getting this equipment on a much more economical and competitive basis than would otherwise be possible.

For Fire Departments Who Are Buying Apparatus!

Get a copy of the newly revised NFPA Standard No. 19 — Specifications for

MOTOR FIRE APPARATUS

60 cents per copy, 60 pages 4¾ x 7¼ in.

Write to:

National Fire Protection Association

60 Batterymarch Street, Boston 10, Massachusetts

What to Do about
Tank Trucks Carrying Flammable Liquids

By Miles E. Woodworth, NFPA Flammable Liquids Engineer

NO ONE can dispute the fact that tank vehicles have fires, because many fire departments have had experience in fighting these and other types of difficult truck fires. However, tank vehicles have a safer accident record than do other types of trucks and the annual total of tank vehicle fires is remarkably low considering the number of miles traveled and the billions of gallons of flammable liquids delivered.

When fire involves large quantities of flammable liquids, the result is a spectacular blaze which in some instances is more awesome than difficult to control. Experienced fire department members who know the effectiveness and limitations of their equipment generally can handle tank vehicle fires competently. They also know the sources of good advice on modern techniques of fire control and take advantage of information available from the NFPA, from state and local fire-training offices and from the petroleum industry.

It is the opinion of the National Fire Protection Association that the hazards of the delivery of flammable liquids can be reduced by proper design of the tank vehicles, thereby eliminating the need for special restrictive legislation. These design features are contained within the "Recommended Regulatory Standard for Tank Vehicles for Flammable Liquids," NFPA No. 385. If tank vehicles are built to conform to these standards, the possibility of fire occurring during an accident is reduced, and if a fire does occur, such vehicles are designed with relief vents of sufficient size to make the fire problem relatively safe for the firemen.

Internal shut-off valves are required for gasoline and light fuel oil tank vehicles. These internal valves, along with a required shear section in the piping, prevents spillage of liquid if the piping is broken in an accident.

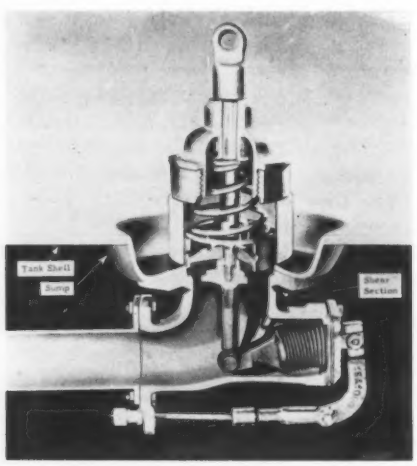


Diagram of internal shut-off valve projecting down through tank shell into piping. If piping is broken, valve will remain closed to prevent spillage of liquid.

Typical tank vehicle fire on a highway. Proper design of the tank and internal valves will help to minimize the fire fighting problem when such accidents occur.

Also, the internal valves are required to have a remote control and be designed to close automatically in case of fire. It is strongly recommended that the fire services push for the adoption of these regulations at a state level and see that the provisions are enforced.

Many fire departments have used the following tactics successfully when combating tank vehicle fires. Simple dome fires are extinguished by closing the dome cover, using an extinguisher, or throwing a coat or blanket over the burning dome. If the fire involves a spillage of product, the ground fire should be extinguished before the dome fire. Foam has been used successfully for extinguishing ground fires. However, several fire departments have had good results in extinguishing with fog nozzles even severe fires involving tank vehicles. To extinguish vehicle fires involving gasoline, the fire fighters use several fog nozzles advancing in a line to sweep the fire away from the vehicle and spilled gasoline thus separating the heat from the gasoline vapors. If your fire department uses this technique, make sure that the hose streams do not sweep the burning gasoline toward an exposed building or other combustible materials.

In summary, well-constructed tank vehicles reduce the possibility of fire as well as protect the firemen. Insist that your state adopt the latest (1957) edition of NFPA Standard No. 385 to secure this protection to the public and to the firemen. Copies of this important 18-page booklet are available from the NFPA Publications Department for 40 cents each, with discounts granted for quantity purchases. The standard will also be included in Volume I of the 1957 National Fire Codes, scheduled to be published by NFPA this month.

MEDICAL COVERAGE FOR A FIRE DEPARTMENT

By Lewis H. Lambert, M.D., Staff Anesthesiologist of the Hitchcock Clinic of Hanover, New Hampshire, and a member of the Hanover Volunteer Fire Department.

ONE of the serious problems facing the chief of a volunteer fire department is the evaluation of the physical status and capabilities of the men he directs. For example, are there men who should not be on the nozzle, but who can perform useful fire duty in a limited role?

For the past two years the Hanover, New Hampshire, Fire Department has attacked this question by giving a yearly physical examination to each man in the department. Actually, such a procedure served a dual purpose. At the same time the physical examination was given, tetanus (lockjaw) immunization was carried out. Frequently at a fire a man will receive a minor wound which could be treated at the scene if it were not for the ever-present danger of tetanus infection. Almost any wound should be considered a potential tetanus hazard, and certainly the conditions under which the rural fireman works makes him a "sitting duck" for the dreaded "lockjaw."

This dual medical operation has been well received by both the town officials footing the bill and the firemen themselves. Fire fighting at best is a hazardous occupation, demanding considerable physical exertion, and the town fathers have been glad to support the effort to protect the firemen by periodic physical check-up. The men themselves responded favorably to these measures for a number of reasons. Each man has a yearly physical evaluation for which he himself probably couldn't or wouldn't spend the money. He has protection from tetanus at his usual job as well as on fire duty. And surprisingly important to the men, the yearly physical examination demonstrated an interest of the community in the endeavors of the firemen.

Hanover, New Hampshire, is a bit unusual, since there is a large medical clinic in the town from which trained personnel and equipment could be drawn to carry out the medical treatment. Nevertheless, the following plan, used for the Hanover Fire Department, could be amended and revised to fit any community where few physicians and minimal facilities are present. It might even be possible for neighboring towns to borrow or pool each other's resources.

The time selected for Hanover's physical examination was one of the regular drill periods. During the previous drill period a medical history form was circulated to each man. It was similar to the "Report of Medical History" used by Service organizations. This the fireman filled out to the best of his ability and brought to the physical exam.

The firehouse was divided into several sections, again not unlike the Army type of examination. The number of sections needed depends on the number of examiners and helpers available. As a fireman arrived at the first position his medical history sheet was checked and any questions clarified. He was then given an examination sheet to be stapled to the history.

The examination sheet is in list form, and as the man goes from station to station, the items assigned to a particular position, e.g., heart, lungs, chest, etc. are examined and findings noted on the sheet. Again the number of stations and items for examination at a particular stop will depend on medical personnel available. It is entirely possible to use fireman personnel to record blood pressure, pulse, weight, height, thus allowing physicians present to attend to more complicated portions of the exam.

After the examination has been completed, each man is interviewed by the senior or department physician, and the findings are discussed. The doctor may recommend that certain items be rechecked by the man's own doctor. The disposition of the medical information is an important matter and should be made clear to the men at the outset. The physician in charge may recommend either full duty or limited duty — this information to be given to the department chief. The medical findings are to be kept confidential between doctor and patient only. Records kept should be under lock and key and available to no one but a physician.

A most important part of the Hanover total examination was carried out at the local hospital. This constituted a chest X ray (minograph type), a hemoglobin test and the urinalysis. This work was performed by the hospital at a fixed cost per man, and the results incorporated in each man's record.

The tetanus immunization was carried out at the hospital at the same time as the laboratory work. The value of tetanus toxoid immunization cannot be stressed too much. The advantage of being able to treat minor wounds without worry of tetanus infection at the fire scene has been stated. Secondly, there is a certain amount of difficulty encountered with the patient who is sensitive to the antitoxin variety of tetanus protection. This is the form that is given at the time of injury to the patient who has not received sustained toxoid protection. Sustained protection is a simple procedure and should be carried out by all departments — even if accompanying physical examinations are not possible. Date of initial immunization and subsequent "boosters" should be part of each man's medical record.

These medical procedures have worked out very satisfactorily in Hanover. The expense is not exorbitant. There is some question as to whether such practice should be made compulsory. At present almost 100 per cent of the men take advantage of these benefits voluntarily.

The advantages of valuable information, important protection and an elevated morale for the fire department have far outweighed the modest expense and effort expended.

Walt Disney Teaches Fire Safety

Above and below: Scenes from Disney's fire safety films "I'm No Fool with Fire" and "How to Have an Accident in the Home!"

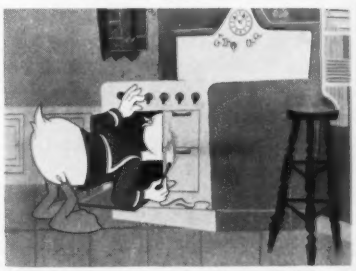
TO MEET numerous demands for good motion picture films on fire safety, the renowned Walt Disney and his staff have directed their artistic wizardry into the production of two new films. Because of the subject matter and excellent illustrations, these films should command the attention of fire department, civic and public service organizations.

One film, titled "I'm No Fool with Fire," features the lovable Disney character, Jiminy Cricket, who gained fame as Pinocchio's conscience. In the film, Jiminy plays the role of teacher and master of ceremonies and uses satire, humor and song to describe the dire consequences to persons, homes and forests because of carelessness with fire.

This 16 mm. sound film has a running time of eight minutes and features full animation and color by Technicolor. Designed for showing during fire safety lectures or to school children in the elementary grades, the film shows the right and wrong way to use fire.

With Jiminy Cricket emphasizing fire prevention and fire safety fundamentals, the film concludes with illustrated sequences from fires caused by carelessness, such as unscreened fire places, overloaded sockets, old papers, paint and rags, and flammable liquids.

Other fire safety instruction is included in "How to Have an Accident in the Home!" This award winning film also has a running time of eight minutes and is available in 16 mm. Technicolor with sound. The narrator for the film is Mr. J. J. Fate, supposedly the one who is blamed for all accidents. Mr. Average Person is none other than Donald Duck, who, of course, violates numerous principles of fire and accident safety, such as using electrical appliances incorrectly, holding a match while looking into the gas oven, and using cleaning fluid next to open flame.



Both of these films are available on a lease basis from Walt Disney Productions, Educational Film Division, Burbank, California. Fire Departments and other non-profit organizations can lease them for $100 per print ($125 to business firms) for the life of the print not to exceed six years. Replacement footage of the film is available at nominal cost during the lease period.

Both of these films were shown during recent NFPA Annual Meetings and were found to be amusing and forceful in the presentation of fire safety instructions.

Why I Made "I'm No Fool with Fire"

The fool with fire can be as destructive and deadly as the most vicious pyromaniac.

He is our most costly public menace.

Throughout the year, by hundreds of thousands, he drops the lighted match, pitches the burning cigarette, neglects the smouldering campfire, tosses bottles along the highway to concentrate the sun's rays on explosively dry grass and brush.

All very innocently done, of course, but disastrous nonetheless.

He takes a frightful toll in human lives and in wildlife. His property damage soars into the billions of dollars in city suburbs, blackened national forests, rangelands, trail areas and mountain communities, especially in the summer-dry western states.

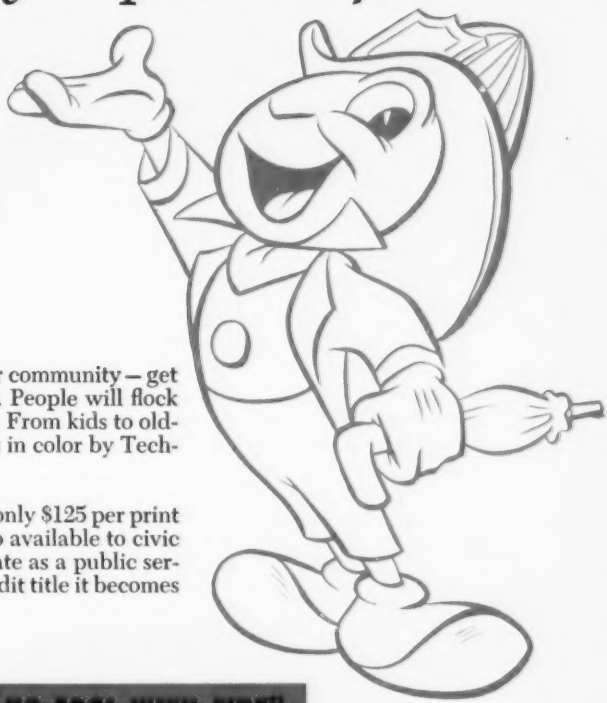
I have always had the greatest respect for the intelligence and basic good citizenship of our young people. I'm certain they do not knowingly want to violate the rules of good fire protection. They need, however, to be repeatedly reminded of their responsibilities in this respect.

My hope is that this film will serve as an effective reminder and that it will help cut down the needless destruction in life and property.

As Jiminy Cricket says, "Only fools do things the foolish way." So don't be foolish. Follow the rules Jiminy so clearly sets down and thus help make every day "safe and sane."

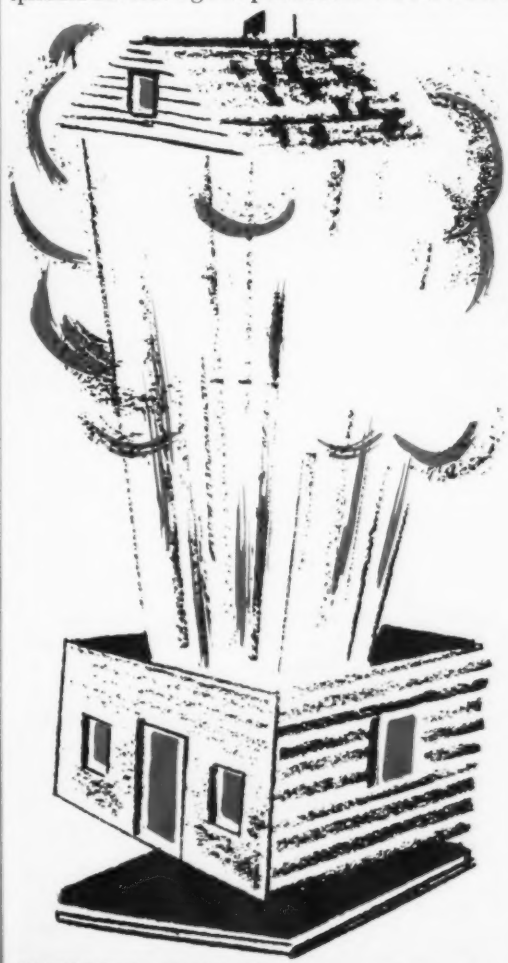
Walt Disney

WALT DISNEY *can help you prevent fires...*



When public interest in fire prevention is lagging in your community – get instructive, entertaining Walt Disney films into circulation. People will flock to see them – the magic of Walt Disney's name insures that. From kids to oldsters – they enjoy and understand these animated messages in color by Technicolor. Each 16mm film runs 8 minutes.

Fight fire with fun with these educational rib-ticklers at only $125 per print ($100 to non-profit groups) on six year lease. Prints are also available to civic groups, clubs, businesses either for their own use or to donate as a public service to fire prevention organizations. With an identifying credit title it becomes splendid advertising and public relations for them too!



"I'M NO FOOL WITH FIRE"

The famous, colorful Disney character, Jiminy Cricket, dramatizes how carelessness causes fire and painlessly puts over the message of fire prevention. Smallest children get the message – and every age enjoys the Disney technique. Schools will show this film with enthusiasm. Every type of meeting will enjoy it – and the lesson lingers long in everyone's mind.

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Disney's most popular cartoon character, Donald Duck, stars in this hilarious, yet deadly serious, presentation. Frayed electric cords, smoking ashtrays, irons left plugged in and a host of other examples are used to illustrate fire prevention and other types of home accidents.

Both these 16mm color films have won "Highest Honors" in safety film competitions. Let Walt Disney, the magic name in education, start doing a fire prevention job for you. Use this coupon NOW.

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COMBATING BRUSH FIRES IN CALIFORNIA

by Cliff Dektar

The forest and brush areas in western states pose a continual fire problem. For nearly 50 years municipal, county and forestry fire-fighting organizations have been trying to develop pumps and apparatus to work effectively in the hilly and mountainous areas. In this first of two articles Cliff Dektar describes some of the techniques and latest apparatus, and highlights some of the practical experience of the Los Angeles and Los Angeles County fire departments.

The Los Angeles County Fire Department frequently uses boys from juvenile probation forestry camps for brush and forest fires. Proper equipment and clothing is provided, including helmets and canteens. The California Division of Forestry also uses prison crews and boys from youth authority camps for fire fighting and construction work. (L. A. County F. D. photo.)

THROUGHOUT America fire fighters are discovering a neglected phase of their profession — the control and suppression of brush fires.

While they may be completely up to date in methods and equipment for combating structural blazes, many departments with a brush fire problem literally have dragged their boots in proper preparation and planning.

Although brush fire control is nearly a half century old in Southern California, agencies there responsible for the control of these wild fires today still push on for new and improved methods — even using university facilities for research work.

Southern California became involved in brush fire protection early because of the high value of the watershed cover on the hills and mountains surrounding most communities in that area. The danger of floods when the watershed was destroyed by fire was recognized as a major threat.

Los Angeles County first organized its Forestry Department late in 1911 with Stuart J. Flintham as County Forester and Fire Warden. In recognizing the need for this service, the County followed the lead of the State of California which organized a forestry board in 1885, the first state to have such an organization.

The Los Angeles Forestry Department today is part of the world-famed Los Angeles County Fire Department and the old board of forestry has evolved into the efficient California Division of Forestry.

In the beginning, County fire wardens went into the hills on horses carrying shovels and axes. Later they carried back pumps. Methods improved gradually — in the '20s they started using Model T Fords to pull trailers loaded with milk cans of water for patrol work.

"The population grew slowly in the foothills," recalled L. A. County Fire Chief Keith E. Klinger, "and our methods improved through the years."

"A group of men from our department, including my predecessor, the late Chief Cecil R. Gehr, decided they must get more water to these brush fires. In 1928 they bolted a tank to an old stake freight truck, attached a small gasoline pump and the first of our now well-known pumper-tanker rigs was born."

Chief Klinger pointed out that the brush problem for his department and other fire protection agencies throughout the United States has been expanding rapidly because of population growth.

"New homes and even industries are being built in the foothills and directly below watershed areas. This means not only is fire protection there more necessary, but that

(Left) Typical of California fire line problems is this one showing juvenile forestry camp boys helping to haul line up a fire break just cut by a bulldozer. A fire captain leads the way. The fire is burning at the right center of the photo. (L. A. County F. D. photo.)

the hazard is greater because of increased use."

Los Angeles City Fire Department has the same problem on a smaller scale. The L.A.F.D.'s Mountain Patrol was established in 1925 when most of the Santa Monica Mountain area within the city was wild terrain. Today new homesites are being carved out of the hillsides and the mountain tops almost as fast as the bulldozers can work. One battalion chief, three captains and 43 firemen are assigned to the patrol.

"Our work has become increasingly difficult," said Battalion Chief Henry Sawyer, Mountain Patrol commander. "We still have our men in radio-equipped trucks on patrol during the day, backed up by equipment from our two Mountain Patrol stations and by engine companies and tankers from stations flanking the brush areas."

The only state-wide fire-fighting agency which deals with both brush and structures is the California Division of Forestry. It basically is responsible for state-interest watershed lands and also in areas where no county fire department exists, the Division provides contract fire protection for districts, communities and unincorporated areas.

"Our problem is magnified because we have different types of fire protection to provide in various parts of California," said Deputy State Forester James Mace. "But in Southern California we are faced primarily with a brush problem combined with people moving into previously sparsely populated sections in watershed areas."

Both Deputy Forester Mace and Assistant Chief Harvey Anderson of Los Angeles County believe fire prevention is one of the key factors in watershed fire control.

"The State has been increasing its patrol personnel during the past few years and they have engaged in more and more fire prevention work," said Mace. "The results certainly have been gratifying."

"If I were to set up a brush fire control program for a community of any size, the first thing I would do would be to regulate all burning with a permit system of some type," said Chief Anderson.

Anderson commands three of the County Fire Department's predominantly watershed battalions and has been with the Department 27 years, most of which have been spent in watershed fire control work. He was one of the key officers in charge of fighting the great Malibu fire last year.

One of the County units operating under the supervision of the California Division of Forestry is the Glen Avon Fire Control Station, commanded by Chief Christian Petersen and supervised by State Forest Ranger Truman Holland. This truck is typical of many of the rural fire trucks used to protect both structures and watershed lands in the area. It is a 750-gpm triple combination pumper having an auxiliary high pressure pump producing 60 gpm at 800 lbs., which can be operated while the truck is in motion. Also featured is the 500-gallon water tank, two 200-ft. hard-pressure hose reels, 400 ft. of 1½-in. hose, 1,200 ft. of 2½-in. hose, two 10-ft. lengths of 4½-in. suction hose, extension ladders, and other equipment. (*California Division of Forestry photo.*)

Chief Anderson also points out that ordinances should be adopted and enforced requiring at least a 30-foot firebreak around buildings in brush areas. (*See NFPA No. 224 — "Fire Prevention Standards for Homes and Camps in Forested Areas." — Ed.*)

Chief Anderson says that many of the homes which have been saved over the years in brush fires have had such firebreaks. In the disastrous Monrovia Peak fire in the San Gabriel Mountains east of Los Angeles in 1953, a number of cabins in Santa Anita Canyon were missed by the flames because of the properly cleared areas around them.

Chief Anderson believes that every fire chief with a watershed problem must set up a patrol system to travel the brush areas for prevention and enforcement work.

"A pickup truck is the best vehicle for this work," he stated. "We have some pretty fancy patrol trucks in our department, but a pickup truck with 100 or 125 gallons of water, a 75-gallon pump — either separate or with a take-off from the truck engine — and 200 feet of 1-in. cotton hose are necessary items."

A mountain patrolman of the Los Angeles City Fire Department uses a line patrol truck to extinguish small fires. (*L.A.F.D. photo.*)

Chief Anderson listed as other equipment for the rig, a ¼-in. fog or other dual purpose nozzles, spare adapters for use on threads in farmyards, Pulaski tool, ax, three shovels, a back pump, canteen, Kortick tool, and, of course, two-way radio.

"If the fire chief has enough of a watershed fire problem, he might want to have a patrolman out all day checking on compliance with regulations and talking with residents about prevention work. The patrolman should have a good supply of 'No Smoking' signs to post during critical fire weather."

"There should be an ordinance allowing the fire chief to close all brush area to smoking during days and months of high fire hazard. And the patrolmen or other firemen should be able to issue citations to violators with the judge backing them to the limit of the law."

Los Angeles County normally uses the captains of engine companies in watershed districts as patrolmen, while the City's Fire Department divides its brush country into eight patrol districts worked by the men of the Mountain Patrol. The California Division of Forestry has regular patrolmen, and uses some of its supervisory suppression men on patrol work.

It is difficult to develop one set of specifications for pumpers and pumper tankers for brush fire fighting.

For example, one of the dilemmas faced by departments with brush problems is that of using a rig for dual purposes. Take Los Angeles County — on major alarms many pieces of apparatus respond to brush

fires complete with smoke masks and 2½-in. line. This extra equipment, the hose in particular, merely weighs down the apparatus and hinders much of the rig's efficiency in the brush.

Yet it certainly would be impractical for firemen to stop and unload heavy equipment and hose. And occasionally, some use can be found for 2½-in. line. The Los Angeles City Fire Department recently laid a 2½-in. line nearly a mile long up a hill with several pumpers hooked in relay to provide a virtual land water main.

The City has two specially built 1,000-gallon tankers with all-wheel drive and 320 hp. Hall-Scott engines stationed at its two Mountain Patrol stations. These are backed up by smaller conventional 400–600-gallon tanks which roll in from regular stations and triples which may carry up to 400 gallons of water.

For primary brush work the California Division of Forestry uses a rig with a 500-gallon tank which carries only 1-in. and 1½-in. hose, plus other brush-fighting equipment. It also has some 4-wheel drive equipment for use in rough terrain which carries 425 gallons of water.

The Division also has a dual purpose pumper which is used for both structural and brush protection. Its basic specifications are: 500-gallon tank, 750-gpm pump and 1½-in. and 2½-in. hose.

The County, as explained earlier, was one of the originators of the pumper-tanker fire truck. Although primarily developed for watershed work, large tanks — up to 1,000 gallons — later were incorporated into regular triple-combination pumpers used in structural areas. The department became an early advocate of the tactic of using preconnected 1½-in. lines from the tank while laying a backup line for additional water if needed.

So for the past ten years all first line apparatus has been ordered with a minimum of 500-gallon tanks, with 600-gallon tanks on rigs planned for primary watershed stations. But again, because they were used for dual purpose, the new rigs have large (1,250 gpm) pumps, 2½-in. line and other equipment not necessary for a strict watershed rig. This, of course, has increased the price of the apparatus.

Apparatus like this L. A. County triple combination pumper has a 245 or 275 hp. engine and 500- or 600-gallon tank. It carries 1,000 ft. of 1-in. hose, 600 ft. of 1½-in. hose, 1,000 ft. of 2½-in. hose, plus bundles of 1-in. line in units of 500 to 1,000 ft. Pumps are 750 or 1,000 gpm capacity. Reels have 600 ft. of high pressure ¾-in. line. Extension and roof ladders are also carried, in addition to 4½-in. and 2½-in. suction hose and a 4½-in. soft suction hose.

In the opinion of Chief Anderson, a basic and exclusively watershed rig should carry a minimum of 500 gallons of water, preferably 600, 1,000 feet of 1½-in. line, 1,000 of 1-in., shovels and perhaps two back pumps. A 500-gpm pump would be the minimum. A small hard suction hose and a ladder might be added.

"The important thing is to keep the rig light and mobile," said the brush expert. "You can build as big and fancy a rig as you want and keep adding 'extras' all day, but what you need basically is power in your engine, hose and an adequate water supply."

He points out that reels can be put on a watershed rig or the preconnected 1-in. line can merely be carried in side bins.

Anderson adds that if apparatus used primarily for structural work responds to brush alarms, it should be equipped with an adequate amount of 1-in. line.

Engine 7, one of L. A. County's companies which responds from West Hollywood's fancy apartment house district on brush moveups, has a light tray filled with 1-in. hose which is quickly fitted on top of the hose bed. But the hose can be thrown on in coils or bundles just as easily.

It is also important to have a nurse or mother tanker of some kind to keep your rigs on the fire lines supplied with water. L. A. City has a 2,500-gallon tanker which is also used at the department's Valley Airport crash station. The County also has a 1,200-gallon tanker now in service and has just completed converting two large surplus Air Force tankers for use as mother tanks.

Arrangements can be made with a small city's department of public works or water supply for use of some of their tank wagons as "nurse" tankers on brush fires. Fire chiefs also can make up an auxiliary list of contractors or other businesses which have tank trucks available and can be borrowed or rented for watershed fire emergencies.

Bulldozers are also valuable for use in cutting firebreaks and in other fireline projects. Again a small department with no need for a full-time "cat" could make arrangements with its own road department for a bulldozer or again have a list of bulldozers available from contractors or ranchers.

It might be well to point out that departments like L. A. City and County and the C.D.F. have bulldozer transports equipped with red light and siren for moving the heavy equipment miles to fires, but that with rented equipment the fire chief should be certain to notify his local police, sheriff or highway patrol station of the need for proper escort of the heavy equipment.

(To be continued next month)

The California Division of Forestry developed this truck especially for grass, brush and timber fire fighting. It has either conventional or 4-wheel drive and carries a crew of 4 men including driver. Gross vehicle weight minimum is 17,500 lbs. The pump has a 250 gpm capacity at 125 psi, or 85 gpm at 250 psi. *(California Division of Forestry photo)*

REMOTE CONTROL LADDER PIPE

ONE of the most interesting developments of fire equipment recently is a remote control ladder pipe designed to give water flows of more than 1000 gpm. Particularly interesting is the fact that the pipe can be operated hydraulically by remote control with minimum attention by personnel.

The device was created through the work of Deputy Chief Louis G. Vogt of the Rochester Fire Bureau who cooperated with consulting engineer Fred J. Decker (retired recently from Ward LaFrance Corporation) and M. H. Gregg. The pipe is made of "Alamag 35" noncorrosive aluminum casting said to be stronger than other nonferrous metals. The large waterway is 3½ in. minimum and has a ball joint to permit directional control of the stream. It is designed without gooseneck restriction to minimize friction loss.

The hydraulic control system is designed to operate from an aerial ladder turntable. By moving the levers on the control box the ladder operator can change the elevation of the ladder pipe stream and control the stream pattern in either direction from his regular position on the turntable. Four charged hydraulic lines from the control box lead to rams which in turn serve to raise or lower the pipe or change the stream pattern. The pipe is so designed that it cannot be thrust over and backward. To meet Underwriters' requirements, operations can be controlled manually. The hydraulic controls have snap couplings and the hydraulic lines are always filled for instant operation.

A special portable control box (see photo) has been designed for use with this equipment. This master stream device can be quickly set up and placed in operation by one man to obtain the full flow of a "water tower." The ladder pipe can handle flows through a 2-in. solid stream tip or large fog nozzle with no appreciable loss.

The device is scheduled to be demonstrated by Elkhart Brass Mfg. Co. during the forthcoming meeting of the International Association of Fire Chiefs in New Orleans (see pages 16 and 17).

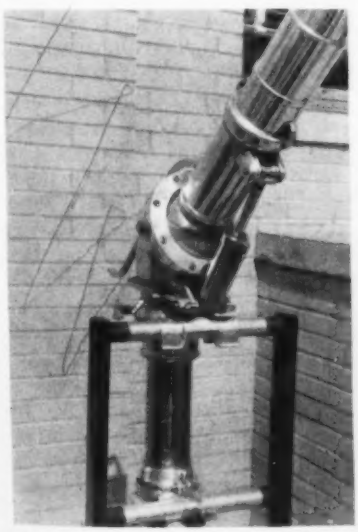
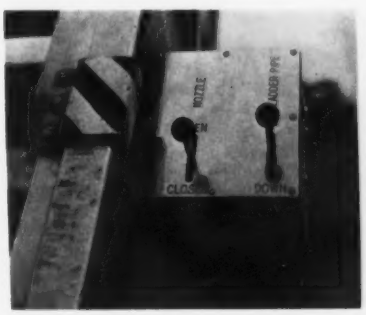
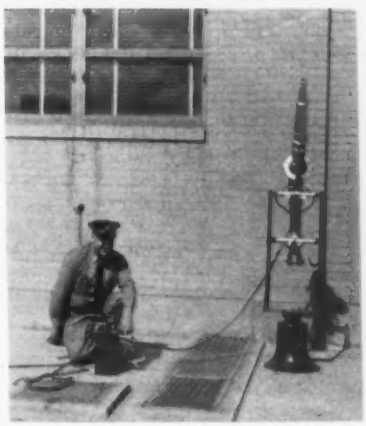


Photo shows the two-way hydraulic ram which raises and lowers nozzle. Also notice large ball valve which eliminates restrictions of gooseneck swivel found in conventional ladder pipes.



Close-up of control box. The left lever adjusts pattern of fog stream and the right lever raises or lowers the nozzle.

Fog stream operating from new ladder pipe. Hydraulic lines extend from nozzle down ladder to control box.



Deputy Chief Vogt shown operating portable hydraulic controls which permit remote operation of hydraulic ladder pipe.

Operating unit is installed at convenient height on ladder so that ladderman can easily operate hydraulic control. A permanent metallic hydraulic tubing is at the side of the bed ladder with reels at top of bed section for extending tubing with fly ladders.

WHAT TO DO WHEN

FIRE INVOLVES GAS CYLINDERS

By Clark F. Jones, NFPA Gases Engineer

THE NFPA receives numerous queries about the safe storage of compressed or liquefied gases, about what happens when gas cylinders are involved in or exposed to fire, and about the procedures to follow when such fires occur. Since fire departments are concerned with these problems, the following information should be helpful.

Proper storage, handling and use of various gases are described in NFPA Standards in the "50 Series." These standards outline reasonable precautions to be followed for gas installations.

If gas containers are exposed or involved in fire, they will begin to discharge their contents through the safety-relieving device provided on each cylinder or tank. Cylinders that are involved in transportation are constructed in accordance with regulations of the Interstate Commerce Commission and have specific safety devices. These devices must be tested and approved by the Bureau of Explosives of the American Association of Railroads, 30 Vesey Street, New York, New York.

Safety devices may be either of the spring-loaded fusible disc type, the frangible disc type, or combinations of the two, depending on the gas contained in the cylinder. For instance, oxygen is kept in cylinders in pressures up to 2,200 psi. Safety devices on the oxygen cylinders consist of a small frangible disc located in the valve, which will rupture at pressures approximately 50 per cent higher than 2,200 psi, or about 3,200 psi. The cylinder itself will withstand much greater pressure, unless it is heated intensely at some localized spot. Such concentration of heat can weaken the cylinder wall before pressure in the cylinder can build up to cause the safety device to function.

Properly constructed gas containers are equipped with relief valves which provide venting when the gas is subjected to excessive heat. Here is a typical fire involving gas cylinders.

Cylinders that contain acetylene, chlorine or sulphur dioxide are equipped with a *fusible* disc safety relief device that will melt and relieve pressure if these containers are involved in fire. LP-gas cylinders are usually equipped with a spring-loaded safety relief device, some have fusible discs, and still others have a combination of a spring-loaded safety relief device with a supplemental fusible disc.

Cylinders or containers are filled and charged in accordance with established filling procedures with specific safe limits. However, if the gas container or cylinder is subjected to exceedingly high temperatures, as would occur in or near a fire, the safety device will function and the excess pressure in the container will be released. If the contents of the cylinder is a flammable gas, this might add more fuel to the fire. Oxygen, while nonflammable, acts as an oxidizing agent, so the discharge of this gas would accelerate the burning process.

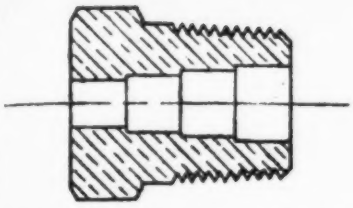
When fire involves cylinders or tanks containing gas, procedures for handling the situation will depend on the location, type of gas and surrounding conditions. What must be done first is a matter of judgment.

Usually it is easy to identify flammable gases since the involved cylinder should be burning at the relief device. Efforts should be made to cool the cylinder with water spray or hose streams, taking care not to extinguish the flame at the relief device. If the cylinders are connected and gas lines are leaking, an attempt should be made to shut off the gas at the container. If this is not possible because of the magnitude of the fire, then permit escaping gas to burn. Protect adjacent exposures until the gas can be shut off, or remove the container to a safer location.

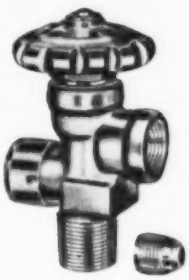
Under normal fire conditions the rate of discharge for all safety relief devices is adequate to relieve the excessive pressure generated by the heat. The cylinders can be expected to relieve this excessive pressure without causing any serious damage.

However, in a group of cylinders if one or several should be knocked over, then the jet flame of burning at the discharge of the safety device may impinge on the wall of adjacent cylinders. This blast of heat can weaken the shells of the cylinders until the metal fails and the cylinders will probably rocket from the sudden release of energy through the shell.

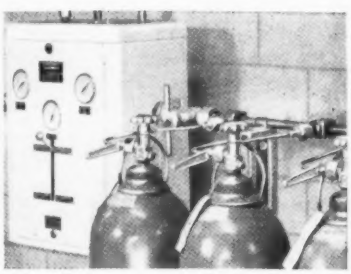
Therefore, if the flame is not impinging on another cylinder, or providing a source of ignition or damage for nearby combustibles, the best advice is to let the cylinder burn out, playing water upon the cylinder and surrounding area to keep everything cool. These general principles apply to all types of compressed and liquefied gases.



Fusible plug, step bore type. It is also available with tapered bore or tapered or straight threaded bore.



Spring loaded safety relief device for 100-lb. LP gas cylinder including shut-off valve.



Frangible disc on oxygen cylinders of medical gas system.

For specific provisions for safe storage and handling, refer to NFPA Standards for the particular type of gas. Review the individual properties of that gas. A good reference source is "Fire Protection for Chemicals" by Charles W. Bahme, published last year by NFPA, $3.00 per copy. Study the information published by the Compressed Gas Association, the Manufacturing Chemists Association, the International Acetylene Association, the Chlorine Institute, Inc., and the publications of insurance organizations. Actually, safe storage of gas cylinders becomes a matter of applying these generally accepted fire protection principles:

(1) The storage building or room should be dry, well ventilated, of noncombustible construction, preferably sprinklered to minimize the fire hazard.

(2) No cylinder should ever be subjected to temperatures above 125 degrees F, for the heat might cause the safety device to function. Cylinders stored indoors should not be located near steam or hot water pipes. Cylinders stored out-of-doors should be protected from direct rays of sun in localities where extreme temperatures prevail.

(3) Oxygen and other nonflammable compressed gas cylinders should be separated or protected from flammable gas cylinders because the flame from a flammable gas cylinder safety device might impinge upon a high-pressure cylinder, intensely heating some localized spot which would weaken the cylinder wall before the safety device functions.

(4) Furthermore, it is a good idea to segregate toxic and poisonous gases from other flammable gases and post the toxic gas storage area with suitable signs. Thus, in the event of fire among the flammable gas cylinders, firemen will not be subjected to toxic fumes or unnecessary hazards.

(5) Since water should be used on compressed gas cylinder fires, cylinders should not be stored in the same room with large quantities of chemicals that react with water, such as calcium carbide that reacts with water to produce acetylene.

NFPA Standards Pertaining to Gases

AS MENTIONED in the previous article, the various NFPA technical standards pertaining to gases are grouped in the "50 Series." For readers who are not familiar with these standards, the titles, contents and costs are described below. Single copy price is given, but discounts are granted for quantity purchases.

All of these standards are also published in Volume I, "Flammable Liquids and Gases," of the 1957 edition of the National Fire Codes.

NFPA No. 51. — **"Welding and Cutting"** — This 28-page booklet presents recommendations for the installation and operation of gas systems for welding and cutting. It covers automatic stationary, non-automatic stationary and portable acetylene generators; service piping systems for all gases; manifolding of cylinders; storage of cylinders and calcium carbide; equipment and procedures for operating welding equipment. An appendix suggests other standards and publications for reference. *Price 50 cents per copy.*

NFPA No. 52 — **"Liquefied Petroleum Gas Piping and Apparatus Installations in Buildings"** — This 42-page illustrated standard provides recommendations governing the installation of LP gas piping and appliances in buildings. Items covered include installation requirements, domestic ranges, water heaters, room and space heaters, furnaces, incinerators, refrigerators, stoves, ovens and other equipment. Suggestions are also made for the venting of appliances, types of flues or vents to be used and other important features. *Price 50 cents per copy.*

NFPA No. 54, 54a — **"Installation of Gas Piping and Gas Appliances in Buildings"** — Items covered in this standard include general recommendations and precautions for utility gas piping and appliance installation within buildings; requirements for specific appliances; venting; procedures for operating an appliance and a useful section on definitions. *Price 50 cents per copy.*

NFPA No. 56 — **"Hospital Operating Rooms"** — This 48-page illustrated booklet is endorsed by the American College of Surgeons, American Hospital Association and the United States Veterans Administration. It recommends safe practices for hospital operating rooms and includes general description of the nature of hazards; a section on construction and equipment including definitions of hazardous locations, ventilation and air conditioning, storage and piping of gases, electrical wiring and equipment, and reduction of electrostatic hazard. A third section provides information for hospital administration, personnel and the professional staff, and covers hazards, handling of gases and other important items. *Price 25 cents per copy.*

NFPA No. 58 — **"Storage and Handling of Liquefied Petroleum Gases"** — This 80-page booklet has had wide acceptance and use by fire departments. It presents recommendations of the NFPA Committee on Gases for proper storage and handling of LP gas. Sections include: cylinder systems; trucks and trailers for transporting LP gases; LP gas as a motor fuel; storage of containers; service stations and many other informative items. *Price 50 cents per copy.*

NFPA No. 59 — **"Liquefied Petroleum Gases at Utility Gas Plants"** — This 32-page booklet presents basic requirements for storing and handling LP gas at utility plants. It describes construction and testing of containers; piping valves and gauge devices; vaporizers, relief devices, handling, and general fire protection principles. *Price 50 cents per copy.*

Jim Romberger ties a Becket bend, while Jack Still checks the knot board. The youngsters have also built their own "house of fire hazards." All of them wear the special helmet with the insignia "1—SFD."

The youngsters are given fundamental training in handling fire fighting equipment. Here Jack Naugle, Jim Still, and Richard Boyd advance a line while wearing gas masks. While some equipment is not "approved" the training gives the youngsters appreciation of the strenuous tasks required of adult fire fighters.

Jim Herst, elected President of Sparky's Fire Department in Middletown, paints picture of a fire extinguisher to learn identification of the various parts.

Middletown Teaches Them Young!

THE following letter was received recently by the NFPA Public Relations Department:

Gentlemen:

Several weeks ago I had an opportunity to attend a demonstration of the Middletown, Pennsylvania, Sparky Fire Department. I was amazed at the knowledge these boys have acquired in the field of fire protection and fire prevention. To say the least, I think that 90 per cent of the people attending were amazed.

The unit was under the direction of Chief John Brubaker of Middletown Liberty Fire Company, and Ralph L. Meyers, Vice-Chairman of Public Relations, Cumberland Valley Volunteer Firemen's Association. You could tell by the way the demonstration was conducted that the men must have spent considerable time working with the boys.

Chief Brubaker also told me how Middletown had reduced the number of false alarms and small fires since they have interested the boys in Sparky's Fire Department.

I think that your organization should be commended for having such a fine program available, and I am most happy to be a member of such an organization.

Very truly yours,

Elwood B. Schwartz
533 Penn Street
Reading, Pennsylvania

Photos on this page show some of the youngsters who inspired Mr. Schwartz to write the letter. The boys began meeting at one of Middletown's fire stations two years ago, and Chief Brubaker was appointed chairman in charge of their activities. Now there are 17 youngsters in Middletown's Sparky Fire Department, and they have elected their own officers and chief, forming two platoons, each with a captain and lieutenant. Last Christmas they sold ornaments to pay for their raincoats and hats. The youngsters are awarded prize T-shirts and belts through credit points they earn during training sessions. At present, Chief Brubaker accepts youngsters between 9 and 14 years old and is considering using teen-agers over 14 as instructors in the future.

It was reported that the youngsters this summer attended two county firemen's conventions as guests of the Liberty firemen. The boys make posters to assist in fire prevention activities and demonstrate their knowledge of fire safety and fire protection at various fire stations in the vicinity.

An important function of their activities occurs if a fire alarm sounds when the boys are meeting at the fire station. Chief Brubaker holds them in session until the fire fighters are on their way to respond to the alarm. Then he dismisses the youngsters, and they proceed home. This cautionary measure keeps the youngsters at a safe distance from fire fighters and apparatus pulling out of the station.

Chief Brubaker's Middletown Fire Department belongs to the Cumberland Valley Firemen's Association which is engaged in outstanding fire prevention activities in Southern Pennsylvania.

(For information on how to start Sparky Fire Department activities in your community, write to NFPA Public Relations Department—Ed.)

Jerry Miller places his helmet in position. The youngsters are held responsible for the care of their clothing and equipment.

how fire departments use NFPA Membership

SINCE it was organized in 1896, the National Fire Protection Association has been a continual, authoritative source of information and advice on matters pertaining to fire safety. Municipal fire departments, industries, hospitals, business firms and innumerable other organizations and individuals have relied on NFPA for information on fire protection, fire control and fire prevention. An indication of this reliance in NFPA is the fact that the technical standards of the Association frequently are the basis for laws, ordinances and regulations developed in the interest of protecting human beings and property against the ravages of fire.

Through the years fire departments which serve municipalities, private industries, and hospitals and institutions have shown a growing awareness of the value of NFPA publications and services. At present 2,454 municipal fire departments subscribe to the special NFPA Fire Department Membership plan. A breakdown of the circulation of FIREMEN magazine, however, throws more light on the extent of fire service participation in NFPA.

A few months ago a thorough analysis of a typical issue of FIREMEN magazine was made. This issue had a circulation of 31,738. Included in the subscribers were 2,862 fire chiefs, 996 assistant deputy district and battalion chiefs, 997 captains, 519 lieutenants, 192 fire marshals, 130 inspectors and fire prevention officers, and 99 training and drill officers. Also subscribing to the magazine were 20,453 fire fighters whose rank was not specified. The remaining circulation went to 941 industrial fire chiefs and plant engineers, 1,577 fire fighters of industrial and institutional fire brigades, 165 fire chiefs' and firemen's associations, 132 fire marshals and Civil Defense officials, and to other individual members of NFPA.

Frequently, fire chiefs report how they use NFPA membership to stimulate competition and interest in their departments. One volunteer fire chief recently stated that each year he awarded subscriptions to FIREMEN magazine to the men in his department who showed the best attendance at training sessions and fires. A number of fire departments in some of the large United States cities have obtained NFPA memberships for each of their chief officers, or for all of their fire stations, to be certain that all officers and key personnel are well informed on the latest facts about fire protection.

Here are excerpts from typical letters sent to NFPA by fire chiefs whose departments retain membership in the Association:

FROM LARGE MUNICIPALITIES:

"It is my contention that the far-reaching medium of reliable fire service publications such as yours cannot be equalled. You mentioned that over 30,000 subscribers read your magazine. Many additional thousands receive vital information through its articles by the incorporation into training programs of techniques outlined therein. . . ."

". . . I find each issue of NFPA FIREMEN chock-full of ideas, information, and highly practicable. No fire department library is complete that does not include FIREMEN."

FROM SMALL TOWNS:

"I have tried to figure the value that this department has received from your magazine as well as the other publications. We have actually used them for studying as a class. They are this fire department's 'bible' with a value unreserved."

"This department employed in past training many of the articles appearing in FIREMEN and has every intention of continuing the practice in the future. Paid personnel of the department, numbering eight, are given copies of pertinent material or refer to certain articles for study. Later they are tested on the information to sharpen their efficiency and memory."

FROM AN INDUSTRIAL PLANT FIRE BRIGADE:

". . . and are currently receiving your magazine FIREMEN. I might add, incidentally, that we find it educational and helpful in forming our fire prevention program."

Another recent survey showed that fire departments in 105 out of 109 cities of 100,000 population or more have NFPA membership; the same applies to 226 out of 243 cities of 50,000 or more population.

This particular issue of FIREMEN magazine is being circulated to every fire department in the United States and many more in Canada. We ask readers to examine its contents thoroughly and to consider how such information received month after month can be of interest and use to their fire department members.

If your department is not a member of the National Fire Protection Association, we urge you to use the special application blank on the back cover of this issue. If you want more information simply send a note to the NFPA Fire Services Department, 60 Batterymarch Street, Boston 10, Massachusetts.

A Well-Planned

DWELLING INSPECTION PROGRAM

Newton, Massachusetts, Fire Department Starts Thorough Inspection Program

ONE morning this past July, a housewife in Newton, Massachusetts, picked up the telephone and called the Fire Department. She asked for assistance in releasing her youngster from the bathroom in which he had locked himself. Just as she hung up the phone, she heard a knock on the front door. She was flabbergasted to open the door and find a Newton fire fighter.

"Why, I just called you," said the woman. "How did you get here so quickly?"

When she explained about the boy the fireman laughed and said that he was there to inspect the dwelling but that other help would soon be on the way to rescue the youngster.

This was but one of the many humorous (and not-so-humorous) incidents encountered by Newton fire fighters during their new dwelling inspection program. In-service inspections were started by the Department on June 24, and were inaugurated at the request of Chief Frederick A. Perkins, Jr., who was appointed head of the Fire Department last year. Lt. Lawrence N. Clark of the Fire Prevention Bureau spent several months investigating the methods used by fire departments in other communities, then the inspection program was designed to meet particular requirements for Newton.

This City has a population of 85,000, covering 18 square miles. The Fire Department, with 10 engine and 3 ladder companies, protects a residential area which has 13 villages with their own shopping centers, and a few sections devoted to manufacturing of many types.

At present, the inspection schedule provides for 4 to 6 fire companies to be out inspecting at a given time. Fire alarms, when transmitted during inspection periods, bring quick response of the inspecting fire company assigned to that particular box. Particular attention is given to improving procedures inspecting fire companies will follow in the event of multiple alarm fires.

About two weeks before the program was started, the Fire Department notified all local civic organizations, churches and clubs, together with local newspapers and radio stations. Good cooperation and publicity resulted and many home owners called for information even before the inspection was started. On June 19, Chief Perkins held a special meeting at Fire Department Headquarters in which all fire officers of the Department were given a briefing on the program and instructional material to be passed out to their fire companies.

In the short time that the program has been under way, the Fire Department has accrued a great deal of valuable information concerning hazardous conditions of dwellings, mercantile and manufacturing buildings in the City. For example, Lt. Clark reported that practically 50 per cent of oil burner installations were found to have been installed without permits. (The Massachusetts Department of Public Safety issues a certificate of competency to persons capable of installing, cleaning and adjusting or making other changes in fuel oil equipment in the State. In order for a home owner to receive a permit for the installation of fuel oil equipment and storage of fuel oil, it is necessary for the installer with a certificate of competency to file forms at the Fire Prevention Bureau in order to obtain the permit. A fuel oil delivery man who delivers fuel oil to premises where no permit is posted is also violating fuel oil regulations.) Basic instructions for the inspection program were detailed in six mimeographed 8½-in. by 11-in. sheets. These instructions notified fire fighters that the inspections would be made between 9 A.M. and 11:45 A.M. and between 1 P.M. and 4:15 P.M. Supervision of the inspections would be by fire company officers or members acting in that capacity. Fire fighters performing in-service inspections were instructed to dress in fatigue clothes (blue shirt and dungarees) with black tie, uniform cap and, when weather required, the men could wear rubber fire coats.

When companies leave quarters for in-service inspection, the fire alarm office is notified by telephone, and the company reports by radio when arriving at the location or area in which the inspections are to be made. During inspections, one man is assigned to stand by the apparatus to maintain radio communication while the other members of the fire company are inspecting. Each man in the fire company takes his turn at this position. Since a siren is only sounded when an alarm has been received to which the company must respond, every precaution is taken to guard against the possibility of children tampering with the siren.

(*Continued on page 46*)

(Left) Newton Driver J. T. Coffey stands by radio-equipped apparatus as Fire Fighter A. R. Caruso prepares to make a dwelling inspection. Members of the Department make their inspections individually under the supervision of fire company officers. Assistant chiefs check on the progress of the inspections at various times during each week. Note prominent sign on pumper. (*Photo by Lt. E. P. McClelland, Engine 9, Newton Fire Department.*)

NEWTON FIRE DEPARTMENT
COMPANY-IN-SERVICE BUILDING INSPECTION REPORT

Co. ..... Date .....

Location of Building—Street No. .....

Owner ..... Address .....

Occupant ..... Purpose for Which Used .....

Construction: Wood ..... Brick and Wood ..... Brick Veneer ..... Stucco ..... Masonry .....
Metal ..... Open Joist ..... Other .....

General Structural Condition .....

Size in Feet: Front ..... Depth ..... Height ..... Height in Stories .....

Type of Roof: Flat ..... Pitched ..... Hip ..... Mansard ..... Gambrell ..... Other .....

Roof Covering: Tar and Gravel on Wood ..... Tar and Gravel on Concrete ..... Slate .....
Asphalt Shingles ..... Metal Shingles ..... Wood Shingles ..... Other .....

Condition of Roof ..... Skylights or Other Roof Openings .....

Entrance to Building: Front ..... Rear ..... Side .....

Entrances to Cellar: Inside Stairway ..... Location .....
Outside Bulkhead ..... Location .....

Stairways: Front ..... Rear ..... Side ..... Where Same Lead To .....

Porches: Front ..... Rear ..... Construction: Wood ..... Masonry ..... Other .....
Access: Outside Stairway ..... Inside Stairway .....

Fire Escapes: Balcony ..... Open Grill Stairs ..... Ladder ..... Other ..... Condition .....

Nearest Fire Alarm Box ..... Box Number .....

Number of Hydrants Within 500 Feet ..... Where Located .....

Central Heating: Steam ..... Hot Water ..... Hot Air ..... Condition of Heater .....

Fuel Used: Coal ..... Wood ..... Oil ..... Gas ..... Where Stored .....

Fuel Oil Tanks: Capacity ..... Location ..... Is Permit Posted .....

Type of Burner: Power ..... Range ..... Space Heater ..... Other Type ..... Permit .....

Inflammable Fluids Used ..... Type or Kind ..... Amount ..... Permit .....

Condition of Yard ..... Condition of Garage ..... Condition of Porches .....

Condition of Sheds ..... Condition of Stairways ..... Condition of Fire Escapes .....

Condition of Cellar ..... Condition of Attic ..... Condition of Smokepipes .....

FP-1

Condition of Chimney ..... Condition of Wiring ..... Condition of Roof .....

Fire Protection Provided: Extinguishers ..... Number ..... Kind ..... Condition .....

Sprinkler System: Wet ..... Dry ..... Other ..... Supervisory Service .....

Standpipe System: Location ..... Size ..... Kind ..... Condition .....

Automatic Alarm System ..... Type or Kind .....

Other Devices ..... Purpose .....

Violation of Laws or Regulations .....

Incinerators ..... Location ..... Kind ..... Permit .....

Location of Gas Meter .....

Location of Electric Meter .....

Location of Sprinkler Shut-Off .....

Order or Abatement Notice Issued .....

Date of Reinspection ..... Conditions Corrected .....

Name or Names of Members Inspecting .....

Remarks .....

Other Pertinent Information .....

Signed .....

Forwarded ..... 19....

Forwarded ..... 19....

Forwarded ..... 19....

The Newton Fire Department uses this inspection report for multiple dwellings. The Fire Department retains one copy, and a duplicate copy is given to the dwelling owner. A weekly report is prepared on a master sheet filled out by the commanding officer of each station.

NEWTON FIRE DEPARTMENT
1164 Centre Street
Newton Centre

HOME FIRE PREVENTION INSPECTION FORM

ADDRESS .....

OWNER ..... ADDRESS .....

OCCUPANT ..... TYPE OF BUILDING .....

OBSTRUCTIONS:

DOORS ..... STAIRWAYS ..... HALLS ..... AISLES .....

WINDOWS ..... FIRE ESCAPES ..... MISCELLANEOUS .....

ENTRANCE TO BASEMENT (CONDITION) .....

HAZARDS:

HEATING UNITS — PORTABLE ..... CENTRAL HEATING UNIT .....

OIL STORAGE ..... GASOLINE FLAMMABLE FLUIDS .....

PERMITS .....

AREAS ABOVE HEATING UNITS ..... SMOKE PIPES .....

ASHES .....

DISPOSAL OF WASTE MATERIALS — RUBBISH, ETC. .....

OTHER HAZARDOUS CONDITIONS .....

ELECTRICAL HAZARDS ..... FUSES .....

CONDITION OF ATTIC .....

REMARKS .....

HOME FIRE ALARM SYSTEM? ..... TYPE .....

FP-1 Copy to Fire Prevention Office.

This home fire inspection form is made out in triplicate. One copy is sent to the fire prevention office, one copy is retained in the fire station, and one copy is given to the home owner.

NEWTON FIRE DEPARTMENT
Schedule of weekly Company-In-Service Inspections

COMPANY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
ENG. #1	X			X		
ENG. #2	X	X				
ENG. #3			X		X	
ENG. #4		X		X		
ENG. #5			X		X	
ENG. #6	X			X		
ENG. #7		X	X			
ENG. #8			X		X	
ENG. #9		X		X		
ENG. #10	X				X	
LAD. #1	X					
LAD. #2				X		
LAD. #3		X				

Typical schedule of engine companies for in-service dwelling inspection. Newton fire fighters wear fatigue clothes during inspections and inspect the buildings unaccompanied, keeping contact with the radio-equipped apparatus.

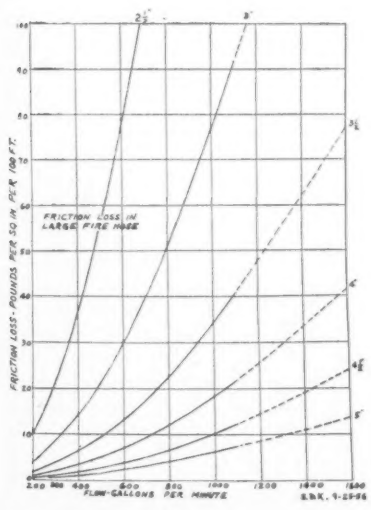
Let's Talk about

Intake Problems

by Stuart D. Klinger, Beloit, Wisconsin

TRANSMITTING water from the source to the fire pump is just as important as getting water from the pump to the fire. Yet it is surprising that intake problems receive so little attention, while the supplying of hose lines by the pump is so frequently discussed. In order to understand both aspects of pump operation, it is essential to know about the supplying of water to the intake side of the fire pump. Because the National Board of Fire Underwriters specifies certain minimum sizes of hard suction hoses for drafting with various sizes of pumpers, it is frequently assumed that this size suction hose is also required for pumping from hydrants. This assumption is not entirely correct, for short lengths of smaller suction hose may supply surprising amounts of water, as we shall see. The Underwriters recognize this fact by advocating that cities standardize on 4½-in. suction hose for hydrant use (Special Interest Bulletin No. 255).

Since the principles of friction loss apply whenever water is flowing through hose or pipe, we can predict how a given suction hose will perform on a pumper.



Friction loss characteristics of cotton rubber-lined hose, from 2½ in. to 5 in. in diameter, are shown in this graph.

A graduate of Beloit College and a mechanical engineer by profession, Mr. Klinger has maintained active interest in the fire service for twenty years. Mr. Klinger's first article for FIREMEN *magazine, "The Operation and Behavior of Fire Pump Relief Valves," appeared in the April, 1957 issue. In this, his second contribution, he calls attention to proper use of hydrant supply and pumpers in relay operation.*

Consider the case of a hydrant which is equipped with a 4-way valve,* then the fire department lays hose lines to the fire and charges with water supplied at hydrant pressure. If conditions require pumping from this hydrant later on, an engine hooks up to the 4-way valve by means of a 10-ft. section of 3-in. hard suction having 2½-in. couplings. The engine then supplies the original line at pump pressure and is prepared to supply as many additional lines as the hydrant and 3-in. hard suction will permit.

Suppose the pumper is of 750 gpm capacity, and that we know from past experience that the hydrant will supply 750 gpm with about 25 to 30 lbs. residual pressure to spare. Will the 10-ft. long 3-in. suction hose permit the required flow of 750 gpm, or will it restrict the flow to some smaller amount?

By checking in friction loss tables (NBFU "Fire Engine Tests and Fire Stream Tables") or the accompanying graph, we find that the friction loss in the 3-in. hose, for 750 gpm flow, is 45 lbs. per 100 ft., or 4.5 lbs. in a 10-ft. long section. We are thus assured that the 3-in. suction hose can easily handle the 750 gpm, and we can predict that our compound gauge will register about 20 lbs. with 750 gpm flowing (25 lbs. residual hydrant pressure less 4.5 lbs. friction loss in suction hose equals approximately 20 lbs.)

For the sake of keeping the foregoing illustration simple, no mention was made of the restricting effect of the 4-way valve. Through this device, we can estimate the friction loss, assuming 750 gpm flow. Passages in this valve have approximately the same size as 2½-in. hose, so if we guess the distance the water travels from the hydrant barrel through the 4-way valve to the suction hose, we should be able to approximate the friction loss. A generous estimate of this distance would be about 18 in., or 1.5 ft.

The friction loss tables do not give values for the loss in 2½-in. hose for flows as high as 750 gpm, but we can readily calculate it; the loss in 3-in. hose for 750 gpm flow is 45 lbs. per 100 ft., and since the loss in 2½-in. hose is 2.6 times the loss in 3-in. hose, it follows that the loss in 100 ft. of 2½-in. hose will be 2.6 x 45, or 117 lbs. The loss per *foot* will be 1.17 lbs., and the loss through the 4-way valve will be 1.5 x 1.17, or 1¾ lbs., approximately 2 lbs.† For this particular setup, the total friction loss through the valve and 3-in. suction hose is, therefore, 4.5 plus 2, or approximately 7 lbs., and the compound gauge reading will be 25 minus 7, or 18 lbs.

In many mid-west cities, use is made of a gated pump intake, to which is pre-connected a 15- to 20-ft. section of soft suction; this arrangement considerably speeds the hooking up of the pumper to the hydrant. Is it necessary to specify a 5-in. suction hose for this type of use when ordering a new 1,000-gpm pumper?

We can put our knowledge of friction loss to work again and assume that this suction hose is 20 ft. long; for 1,000 gpm flow, the friction loss in 20 ft. will be 20/100 of the loss in 100 ft. of hose, as indicated in the tables or on the graph. The losses will therefore be 1.2 lbs. for a 5-in.

*Hydrant gate valve which permits initial use of a direct hydrant stream and subsequent connection of pumper without shutting down stream — Ed.

†Internal design of valve will also affect friction loss. — Ed.

hose (the graph shows 6 lbs. loss in 100 ft. of 5-in. hose when the flow is 1,000 gpm; 20/100 x 6 equals 1.2 lbs.), 2 lbs. for a 4½-in. hose, and 3.6 lbs. for a 4-in. hose. This difference in friction loss is so insignificant that it is doubtful if the compound gauge could be read accurately enough to tell whether a 5-in., 4½-in., or 4-in. suction hose was being used. The choice of a 5-in. hose, therefore, results in a more costly, bulky and difficult-to-handle suction hose than is required.

These examples should make clear that our knowledge of friction loss in discharge lines can be used in analyzing intake problems as well. Of further value to the fireman, in this respect, is a good knowledge of the performance of individual hydrants, particularly in the vital sections of the high-value district. This knowledge of hydrant performance can be acquired in various ways. Some cities have hydrant tops painted with distinctive colors, thus indicating probable hydrant flow in accordance with coded coloring advocated by the NFPA; other cities number hydrants and carry a record of each hydrant and its capabilities.

Still other departments employ the excellent plan of pumping from a different hydrant each time they drill, thus giving the men a pretty good knowledge of which hydrants are good and which are poor. In this connection, I am reminded of a major fire where knowledge of this kind would have been most helpful. At this particular fire, a 1,000-gpm engine was supplying about 700 gpm and gasping for more water because it was hooked to a poorly supplied 4-in. hydrant. Meanwhile, less than a block away, a 500-gpm engine was pumping from a good hydrant, capable of supplying at least 1,500 gpm. So know your hydrants — it pays good dividends.

Though it is of no use in selecting a hydrant, there is another method of predicting what a hydrant will do, once we are hooked up to it and are supplying one line. This method (see NFPA "Industrial Fire Brigades Training Manual") requires that the reading of the compound gauge be noted when the pump is charged with hydrant water, but before any water is delivered to a hose line. Then a line is charged at proper pressure, and the compound gauge is checked again. If the drop in intake pressure is not over 25 per cent, the hydrant will supply enough water to charge another line of the same caliber as the first; if the pressure drop is not over 13 per cent, 2 more lines can be supplied, and if it is 7 per cent or less, 3 more lines are possible. We shall use this principle later in determining if dual or tandem pumping is practical from a given hydrant.

(Right) West Milwaukee, Wisconsin, Fire Department practices tandem pumping operation under direction of Chief John Pavlik. The two engines shown are supplying three master stream appliances with about 1,800 gpm.

It is evident that, for the sake of saving time, hose and manpower, every effort should be made to use the water supply which is closest to the fire to the limit of its capacity, before going further away from the fire to obtain water. Yet, for some reason, many fire departments which have adequate water supplies fail to take advantage of this logical principle. They go to the extent of buying 750-gpm pumping engines when, for a few hundred dollars more, they could obtain engines of 1,000 gpm or greater capacity. At a recent major fire requiring water from 11 hose lines, these 11 lines were supplied by 6 engines, pumping from 6 different hydrants, when 3 engines, using the closest available water, could have easily done the job, thus considerably reducing the amount of hose, and leaving 3 engines available for use elsewhere.

It is easy enough to run hydrant flow tests before the fire occurs, and thus to eliminate most of the uncertainty concerning a hydrant's capacity; but in cases where this simple precaution has not been taken, there is still a way for the alert officer to determine if a hydrant will supply another pumping engine.

To estimate hydrant capacity by this means, the operator should note the static pressure on his compound gauge before opening any discharge valves. Then, when his pump is delivering its full capacity, he notes the compound gauge reading again. If the pressure has dropped 25 per cent or less between zero delivery and full delivery, the hydrant should be able to supply a second engine of the same capacity as the first. A pressure drop amounting to ⅓ of the original static pressure indicates that the hydrant should supply another pumper, but of the next smaller size, providing that the first engine does not exceed 1,000-gpm capacity.

For example, if the pressure is 80 lbs. before commencing delivery from a 1,000-gpm engine, and then drops to 60 lbs. when this engine is delivering its rated 1,000 gpm, then the hydrant should be able to supply another engine of this size. If, however, the pressure drops to 53 lbs. (80 minus ⅓ of 80 equals 53), the hydrant will not supply another 1,000-gpm pumper, but *will* supply a 750-gpm pumper.

There are two ways of hooking to a hydrant to supply more than one engine. The first, and most obvious way, is to hook each engine to a separate hydrant outlet. It is therefore good practice to attach a gate valve to an unused hydrant outlet when preparing to pump, so that another engine may be hooked up later without having to shut down the hydrant. One large mid-west city is equipped with hydrants having two steamer outlets; a gate valve is always attached to one of these when a pumper is connected to the other.

The second method of supplying two or more engines from one hydrant is to employ dual pumping, frequently called tandem* pumping in cities where it is used. Dual pumping is accomplished by hooking the suction hose of the second engine to an unused *intake* port of

*There is some uncertainty concerning the use of the term "tandem pumping," principally because some writers have used this term to describe relay pumping when the hose line which connects the discharge of one engine to the intake of another is short. It would seem that this operation should be called "relay pumping," regardless of the length of line.

the engine already pumping from the hydrant. The suction hose and pump intake chamber of the first engine accordingly carry all of the water used by both engines; the first pump merely takes what it needs, and the rest is passed on to the second pump. Firemen familiar with two-stage centrifugal pumps will appreciate that dual pumping is actually the same arrangement that exists when a two-stage pump is operating in "parallel," and both stages are drawing their water from the same source (pump intake chamber).

Pumping engines intended to be used in dual pumping operations should have one or more intake ports provided with gate valves, so that there will be no need to shut down when the second engine is being hooked in to the first. As a matter of fact, a pumper equipped with two or more gated intakes will prove to be a very versatile piece of apparatus in many ways. Another requirement for dual pumping is the provision of suitable adaptors for hooking the intake ports of two engines together with suction hose.

If two engines engaged in dual pumping are headed so that their instrument panels face each other, it would be possible for one operator to attend both pumps, thus offering a possible saving of manpower for shorthanded companies.

As in all fire-fighting operations, knowledge must be tempered with good judgment when supplying more than one engine from a hydrant. Unless the water main is a large one, a hydrant supplying pumps to the limit of its capacity cannot be expected to continue doing so if other engines are hooked up to the same main. But, generally speaking, a given main in a fire area will supply just so much water, and it is better to place pumpers close to the fire when making use of this water supply.

Chief Messer Appointed

CHIEF Walter R. Messer, of the Keene, New Hampshire, Fire Department, has been appointed Secretary-Treasurer of the New England Division of Fire Chiefs. He replaces Chief Alfred H. Koltonski who has retired from the Burlington, Vermont, Fire Department.

Memo to

INDUSTRIAL FIRE BRIGADES

THE records of fire experience prove that every industrial plant should have some personnel well trained in fire safety. For this particular group a thorough knowledge of how fires may be prevented is essential. These trained individuals should also know how to act when fires do start, how to handle and control evacuation of people from the building and how to perform basic fire-fighting tasks safely while help from the municipal fire department is on the way.

There are indications that more and more industrial plants are giving attention to the development and training of such personnel for plant fire brigades. One indication is the increase in NFPA membership for industrial plant fire departments. FIREMEN magazine, for example, is now circulated to 941 industrial fire chiefs and plant managers, and 1,577 fire fighters of plant fire brigades. Another measure of interest in plant fire safety is that 7,800 copies of the "Industrial Fire Brigades Training Manual," published in 1954 by NFPA, have been purchased. This 158-page, 8½-in. x 11-in. illustrated book is perhaps the best source of reference for plant fire chiefs and plant managers who wish to improve the techniques and knowledge of their fire brigade members.

The NFPA is continually publishing other books, bulletins, posters and technical standards which are of value to all types of industrial plant personnel who want information on how to protect against fire. The best way to obtain this material regularly is through membership in the Association which costs only $15 per year.

For industrial fire brigades such membership brings a subscription to the NFPA *Quarterly*, a subscription to the monthly *Fire News* and numerous other publications which are sent to NFPA Associate Members. If subscriptions to FIREMEN magazine are wanted, then each subscription costs only $2 per year in addition to the $15 membership dues.

Many industries use NFPA memberships to focus the attention of employees on the numerous costly problems created by fire. The fire brigade members of these plants are encouraged to develop sound training programs and year-round fire prevention programs. Many take part in the annual NFPA Fire Prevention Week Contest and submit entries to be judged in the Industrial Classification. Winners of this Contest (see February 1957 FIREMEN magazine) receive international publicity as well as attention from the other industries which participate in the Contest.

If you are a plant fire chief or plant manager simply fill out the blank on this page and mail it to the NFPA executive office. A special application form and detailed information about NFPA will be sent to you promptly.

National Fire Protection Association 19
60 Batterymarch Street
Boston 10, Massachusetts

Gentlemen:

Please send me additional information on NFPA industrial fire brigade membership.

Name .....

Address .....

City (P.O.) ..... State .....

FIRES IN THE NEWS

Boston, Massachusetts, July 27. Boston fire fighters had some serious problems when fire involved this undivided, unsprinklered wharf substructure. Fire originated beneath the pier deck and made great headway through the substructure channels due to the absence of fire walls and sprinklers. Fire fighters responding to multiple alarms had to work in dense smoke from burning coal dust and sulphur dust which made fire fighting extremely difficult. Because of high tide it was impossible to get under the wharf with pup-boats and fire hose pontoons. About 80 percent of the 58-ft. wide wharf that extended 2,500 ft. along a river bank was destroyed, with loss amounting to an estimated $465,000. *(Photo by C. D. Campbell)*

Lititz, Pennsylvania, July 2. A blow torch being used by a painter to remove paint started fire in a wooden cornice of this church. By the time the fire was discovered 15 minutes later, flames had entered the attic. The painter obtained and discharged two 2½-lb. carbon dioxide extinguishers before telephoning the fire department. Fire extended through the undivided attic above the two-story stone, wood joisted church and adjoining rectory, with an estimated loss of $250,000 *(Wide World photo)*

Charlotte, North Carolina, June 14. This F-84G jet aircraft made an emergency landing at Douglas Municipal Airport, struck an excavated area at about 105 mph, and the landing gear broke. Fire which ensued was attributed to a friction spark ignition of hydraulic fluid released by the gear failure. With the Air National Guard away for training, the airport lacked major crash fire fighting facilities. Apparatus summoned from the Charlotte Fire Department arrived within six minutes, but it took more than two hours to extinguish the fire with available equipment. *(Charlotte "Observer" photo)*

Spring Valley, Pennsylvania, June 15. Installation of a sprinkler system in this building was 95 percent completed, and the system would have been placed in service two days later. However, fire started in the building probably because of faulty operation of a gas-fired drier for battery rubber separators. One employee used standpipe hose for fire attack while another called the fire department, but the fire spread from the plywood enclosure to the wood roof. Despite efforts of volunteer fire departments, the heavily damaged building suffered a loss estimated at $250,000. *(Photo by Walter Romanski)*

ANOTHER BABY-SITTING CAMPAIGN!

Beverly, Massachusetts, Fire Department develops outstanding program with excellent community cooperation.

THE January 1957 issue of FIREMEN magazine featured an article titled, "Some Tips on Teaching Baby Sitters!" In general, it was a round-up of activities conducted by outstanding fire departments who had initiated successful baby-sitter training programs. Because of the demonstrated interest in this subject, the article was reprinted, and a special kit was prepared by the NFPA Public Relations Department. So far, between 400 and 500 requests for this kit have been received from fire departments and other organizations throughout the United States and Canada. It is still available upon request.

One of the outstanding programs which resulted from this baby-sitter training information is now being conducted by the Beverly, Massachusetts, Fire Department, commanded by Chief John E. Callely. The department has received cooperation from the Chamber of Commerce, the Jaycee-Ettes (girl members of the Junior Chamber of Commerce), the *Beverly Evening Times*, the Police Department, doctors, pediatricians and other medical authorities.

Chief Callely's department protects a city of approximately 30,000 population covering an area of a little more than 15 square miles. In addition to the Chief, there are 3 deputy chiefs, 10 captains, 3 chief's aides, 4 fire-alarm operators, 60 paid fire fighters and 23 call fire fighters, including a district chief. Apparatus in service includes 5 pumpers, 3 ladder trucks, 3 hose trucks and 2 chief's cars.

The training program was initiated by George W. Merrill, aide to Chief Callely. He wrote to the various fire departments reported in the FIREMEN magazine article and received information from the chiefs. He then met with the Beverly Jaycee-Ettes, outlined the program and requested their sponsorship. The young ladies were very enthusiastic, did all the typing for a 16-page, 8½-in. x 11-in. manual, and with the fire department arranged to conduct the first registration night at the Beverly Hospital auditorium.

The response to the training course was overwhelming. On registration night nearly 500 applicants arrived. The chosen facilities at the Beverly Hospital auditorium were inadequate and the Beverly Fire Department arranged to have the meetings conducted at one of the public schools.

EXCERPTS FROM BEVERLY'S MANUAL

Fire Department:

Emergency Safety Precautions:

1. Don't open any inside door without first feeling the door panels. If they are hot, don't open. Fire or hot killing gases are on the other side.

2. Don't try to come down a smoke or fire filled stairway

a) Stay in the room, door closed; open the window and get the children's heads and your own out in the fresh air.

b) Shout for help.

c) As a last resort fashion a rope of sheets down which you can lower the children; then slide down, hand over hand, yourself.

d) Don't jump.

Police Tips:

Report to the Police Department immediately any strange happening.

1. "Peeping Toms": Do not let the suspicious persons know you are calling the police. If possible, be as casual as can be, try and place yourself between the person's vision and the telephone. Dial the police WA 2-1212. This person must be caught, or he will return.

2. Strangers or *strange* cars loitering about or circling the block.

The Medical Aspects:

Convulsions—usually due to fever.

a) Insert mouth gag.

b) Undress and sponge infant with cool water.

c) Usually of brief duration. Get operator to call doctor.

d) Don't restrain movement.

Infant and Child Care:

Responsibilities of sitter after child is settled in bed.

1. Observe child every hour.

2. Leave door ajar.

3. Don't telephone for long period of time.

Never leave child unattended!

Control and Entertainment of Children:

Find out what the child's interests are.

Do not allow the child to become overtired, since the overtired child is not easy to manage.

Portion of the crowd of nearly 500 applicants who attended the first meetings of Beverly's baby-sitter training program.

Taking part in the original planning of the program were Mrs. Edgar W. Haley, Aide to Chief Merrill, and Mrs. William C. Beck, Jr.

Each student taking the course in baby sitting was required to attend five lectures before taking the final examination. Nearly 200 students successfully passed the examination and were awarded certificates. A list of all these certified baby sitters is retained by the Chamber of Commerce, the Jaycee-Ettes and the fire department.

Indicative of other cooperation which the fire department obtained is the well-prepared mimeographed manual. This contains a "Baby Sitter's Memo Pad" donated by a local furniture company. Parents can use the pad to fill in brief instructions on telephone numbers, names of relatives and friends, and other information for the baby sitter. Another contribution was an emergency telephone number card (similar to the one prepared by NFPA), donated by a local insurance company.

Perhaps the outstanding aspect of the program is the mimeographed manual. This contains fire safety precautions recommended by the fire department, a section called "Tips for Baby Sitter's Safety," prepared by the Beverly Police Department under the direction of Captain Stackpole, an article on the medical aspects of baby sitting by Dr. Alexander MacDonald, a section on infant and child care prepared by Mary Singleton, pediatrics supervisor of the Beverly Hospital, and information on the control and entertainment of children by Mrs. Vance Garry of "Toddler's Town."

Additional support for the program was obtained from the Beverly superintendent of schools, the school committee, the *Salem Evening News*, and several commercial establishments in the vicinity. According to Aide Merrill, citizens of Beverly have reacted very well to the program, and the fire department expects to repeat the course in the Fall.

Want Newspaper Mats?

THE NFPA Public Relations Department is distributing free newspaper advertising mats for Fire Prevention Week. They are available in four sizes: 2⅛ in. wide x 1⅛ in. deep; 4 in. wide x 2 in. deep; 2¼ in. wide x 3½ in. deep; and 4 in. wide x 6 in. deep.

The latter two mats carry this year's fire prevention slogan, "Make sure of their tomorrows. . . . Don't give fire a place to start!" All four mats carry the statement, "October 6–12 Is Fire Prevention Week!"

These free mats will be very useful to fire departments who work closely with newspapers in their communities to obtain thorough publicity of Fire Prevention Week activities. Quantities may be obtained by writing directly to the NFPA Public Relations Department, 60 Batterymarch Street, Boston 10, Massachusetts.

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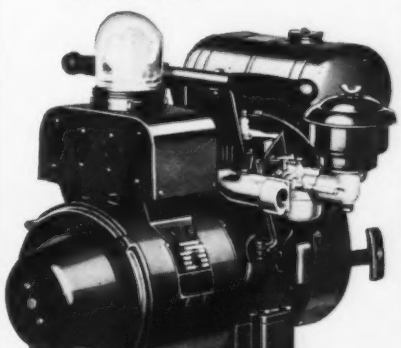

Model 1.5M25, *1500 watts, 115 volt AC. Manual starting. 2500 watt AC portable models also available.*

Volunteer and municipal fire departments use compact, smooth-running, portable Kohler electric plants to speed fire-fighting and rescue work. Kohler 1500 watt model provides ample power for floodlighting night fires—also pumpers, smoke eradicators, resuscitators, power tools for rescue operations. Has 4 receptacles, pilot light, double carrying handle. Rubber-tired hand cart available. Other models, 500 watts to 50 KW include stand-by models to maintain sirens, alarm signals, communications during power failure.

For civil defense portable Kohler plants operate floodlights, sound amplifiers, power tools, X-ray units for mobile hospitals, and rescue truck equipment. Larger sizes for air-raid sirens. Stand-by models for panic or evacuation centers. Write for folder 13-C

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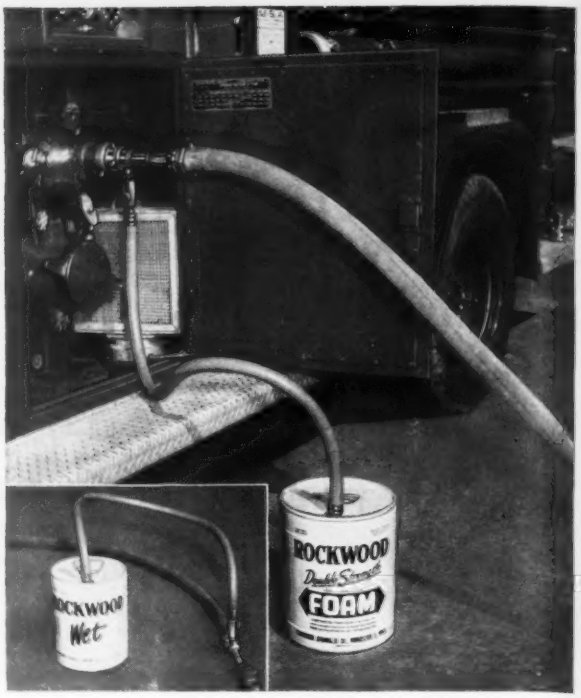


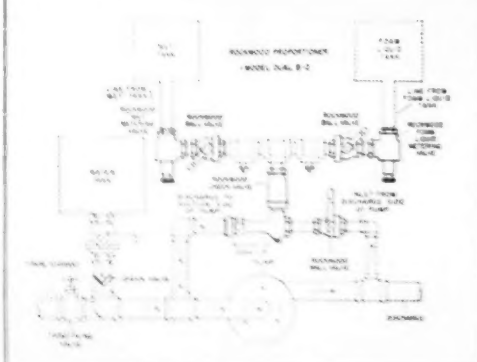
Rockwood's long, practical experience and constant research assures you the safest, most economical means of fighting all types of fires. These pages illustrate a few of Rockwood's family of products that are playing a vital part in fire fighting programs throughout America.

Rockwood's new Double Strength FOAM and Rockwood WET offer you many advantages

Double Strength FOAM has double foam making capacity, cutting in half the transportation cost and storage space. It is faster spreading and flows freely — even at subzero temperatures. An outstanding FOAM liquid to go with Rockwood's advanced type of FogFOAM and FOAM Nozzle for quickly putting out fires in gasoline and other similar flammable liquids. Available in 5 gallon cans or 50 gallon drums.

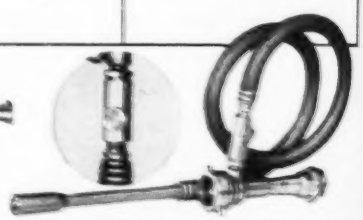
Rockwood WET increases the spread and penetration of water into deep seated fires involving ordinary combustibles such as wood, paper, cloth, etc. It greatly reduces the water needed to extinguish such fires. Available in 50 gallon drums, 5 gallon and 1 gallon cans.

Regular FOAM and All Purpose FOAM are also available.



Proportioning System. Model B-2, around-the-pump proportioner. Used when pressure is maintained by pump. Custom-engineered systems are also available.

The F-301 Nozzle developed for use with 1½" hose to provide an economical means of applying a solid stream of FOAM on flammable liquid fires.



The Variable FW Metering-Check Valve with FW Eductor incorporates both the Metering Valve and Ball Check Valve in one unit and meters material into the hose line in any proportion from 1% through 6%.

Type FFF FogFOAM Nozzle with FogFOAM screw discharges wide pattern of FogFOAM. Also available with shaper to discharge long solid FOAM stream. For 1½", 2½" and 3½" hose lines. Approved by Underwriters Laboratories, Inc.

TYPE SG-60 WaterFOG Nozzle with FF FogFOAM extension unit attached

Rockwood offers you 4 types of turret control

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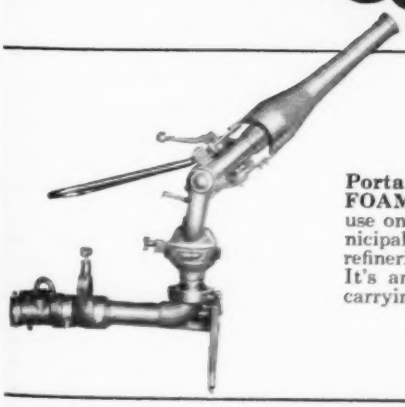
Remote Hydraulic Control Single Type FFF FogFOAM Turret Nozzle on Type 0-10 U. S. Air Force crash rescue fire fighting truck. Similar turrets can be supplied for oil refineries, chemical and industrial plants and municipalities. Hydraulically operated dual turrets also available.

Remote Manual Control Type FFF FogFOAM Turret Nozzle provides efficient operation of turret from driver's seat within truck cab — for small municipalities, airports or industrial properties where limited personnel is available.

Direct Manual Control Dual Type FFF FogFOAM Turret Nozzles — can be operated directly by firemen from cab roof.



Portable Type FFF FogFOAM Turret Nozzle for use on fire hose lines by municipal fire departments, oil refineries and industrial plants. It's arranged for convenient carrying on fire trucks.

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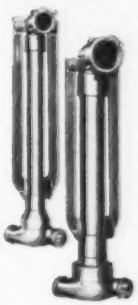
Type SG-48 WaterFOG Nozzle. Easy to handle. Discharges high or low velocity WaterFOG or straight water stream.



Lightweight Rotating Cellar and Attic Pipe. Fights fires in cellars, attics, under piers, bridges, etc. Also available in a short unit with swivel but without extension barrel.

Type N22 WaterFOG Nozzle. Discharges high velocity WaterFOG. For general use around live electrical equipment.

Type N23 WaterFOG Nozzle with Swivel Handles. Discharges high velocity WaterFOG with higher discharge and greater range than Type N22 Nozzle.

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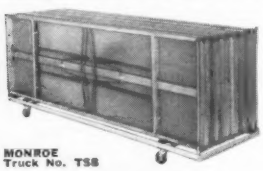

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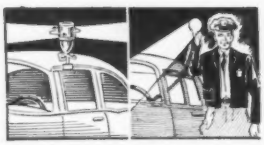

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Fire Administration Course

ANOTHER professional program in fire administration will begin at the School of General Studies, Queens College, New York, this month. Registration at the College will be held September 11–13, from 6:30 P.M. to 9:30 P.M. Instruction is designed to provide college-level training for members of the fire service, and emphasis is placed on problems of administration and fire fighting techniques.

The program is open to members of the New York Fire Department and fire fighters in neighboring communities holding a high school diploma or its equivalent. Tuition for each course will be $14 for New York City fire fighters and $20 for all others. Each student will pay a registration fee of $2 and a library service fee of $1.50.

Classes will be held in the afternoon from 2:00 to 3:50 P.M. and in the evening from 8:40 to 10:30 P.M. Instructor and subject matter will be identical in both sessions.

The following courses ($14 or $20 charge for each) will be offered in this fall semester:

Municipal Management
Fundamentals of Fire Administration I and II
Fire Company Administration
Hydraulics for Firemen
Chemistry for Fire Department Personnel
Building Construction and Fire Hazards I
Psychology of Leadership for Fire Personnel

Other courses which will be included in this fire administration program are: Fire Service Mathematics and Physics, Fire Prevention and Inspection, and Public Relations for Fire Department Personnel.

Application should be made to the Business Office, Queens College, Flushing 67, New York.

Respiratory Device

THE mouth-to-mouth technique of artificial respiration recently adopted by the American Red Cross is described on pages 52 and 53 of this issue. A report from Captain Martin C. McMahon, supervisor of the Emergency Ambulance Service, operated by the Baltimore, Maryland, Fire Department, provides some supplementary information.

Since April of this year, Captain McMahon and other members of the Baltimore Fire Department have been working with Dr. Peter Safar, chief anesthesiologist of the Baltimore City Hospital. The firemen served as volunteer "victims" so that important data on mouth-to-mouth respiration could be obtained. Dr. Safar and Captain McMahon developed a special tube which would serve as an airway when the mouth-to-mouth technique was being administrated. Primarily, this airway would be used when the resuscitation technique had to be applied to an unsanitary person or some other condition where the mouth-to-mouth technique might not be wholly advisable. The tube is simply inserted into the mouth of the victim so that the rescuer can force his breath into the windpipe. Captain McMahon calls attention to the fact that for all oxygen starvation victims, the trachea tube (windpipe) must be held straight so that oxygen will have passage into the lungs.

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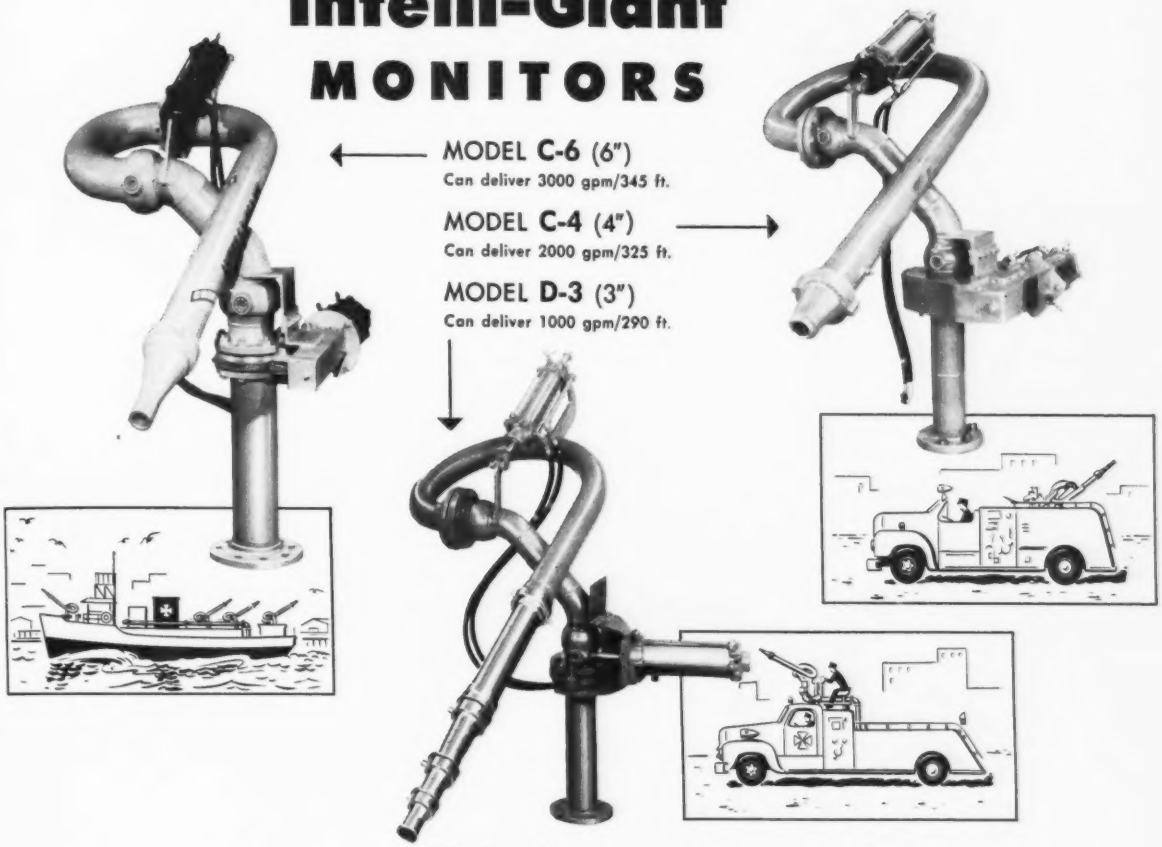
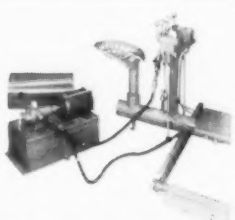


Whether fire suppression tactics dictate a powerful far-reaching master stream or a dense enveloping fog, there's a Chiksan Intelli-Giant with the proper capacity to meet individual requirements. Hydraulically controlled, these "giant deluge" monitors can be truck mounted for mobile use or situated as a fixed emplacement in hazardous areas with remote controls located at a safe vantage point. A closed circuit hydraulic system is available for operation in cold climates. Direction of monitor is controlled by two simple-to-operate levers. With all of its powerful striking force and high volume output, the savings achieved from effective suppression of just one fire can more than repay the cost of this monitor. Send for literature and prices today.



Hydraulic controls can draw power from source of stream, or a closed circuit system is available for operation in cold climates.

See "MODERN FIREFIGHTING". Write Chiksan, 300 No. Pomona Ave, Brea, California, to arrange a showing of this informative 16 mm movie.

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Intra-Fire Department Public Relations

MOST fire fighters will agree that, because of its calling to protect life and property, their service must be kept above partisan politics. The fire service, paid or volunteer, must be built upon a dedicated group of men banded together for this common goal. The public safety demands officers and men chosen and retained on a basis of proven ability and experience.

As in other areas in the science of government, there may be differences of opinion relative to how this essential ideal of the fire service can be effected. For example, there may be differences between administrators and fire fighters as to how much detailed information regarding policy decisions affecting the fire service is the concern of fire department members, and how much information should be restricted to top policy-making members of the official family, who frequently are associated with the political party having local control.

In small fire departments and fire districts where the fire department heads report directly to the people, or where there is a governing board of elected fire department members as the official governing body operating under law, the problems are close at hand and usually are clearly understood by the department members such as where members of a volunteer department vote whether to buy new hose or a new nozzle.

However, in a big organization, the necessary chain of command from top city officials through commissioners, chief of department, headquarters chiefs, division chiefs, battalion chiefs before reaching company levels, has a way of making the policy level and the work level remote. For example, the fire fighter may not realize the reason for changes, such as the relocation of fire stations, or that improper care of fire hose in his company may affect his pay check. Further, the large organization tends to become impersonal so that men are not treated as individuals but as a cog in the departmental machine.

Much has been said and written about fire department public relations programs as if the objective was merely to "sell" the public on the merits of not being burned to

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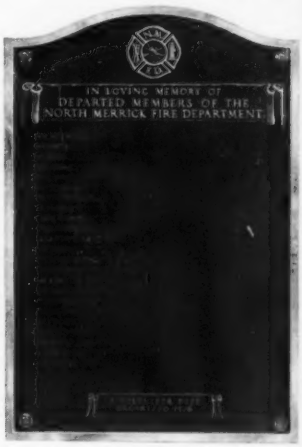

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death. However, the fire fighter serves best who is best informed and who knows what is planned in the organization and the reasons why. Firemen are not mere "hewers of wood and haulers of water" but are the future officers of the department and the department's best and only fully effective salesmen.

The Holy Scripture itself says: "Ye shall know the truth and the truth shall make you free." We wish that every official in charge of fire department policy would adopt the slogan, "scuttle scuttlebutt with facts," and would then supplement this intention with a definite information program which would include a departmental news bulletin of personnel notes covering appointments and promotions, commendatory letters, reports on significant fires that all members may not have attended, departmental history and background. It would also include "what's new" about new apparatus, equipment, fire stations, along with progress reports on projects under way, interesting or unusual happenings about members, and information regarding new developments on matters of policy involving the service.

The public relations program of any fire department will only be effective to the extent that it reaches the members of the department concerned and enlists their unreserved support because the program is practical, reasonable and desirable from the point of view of the rank and file firemen.

Heard in Passing

A group of smoke eaters were seated around the coffee table, talking. Some of the appellatives and adjectives were of the type frowned upon in rules and regulations. Yet, in the firehouse vocabulary, they had the virtue of making clear the degree of enthusiasm with which a subject is held in favor or disfavor.

"Better watch your language, Bud," one of the men suddenly observed. "You know there is a place where the worm never dies and the fire is not quenched."

"That well may be," replied Bud, "but did you ever know of a true fire fighter going to the hot place? The old fellow in the red pajamas just couldn't stand to have us around. We'd spoil his game and ruin his business. Think what it would mean if any significant part of the fire fighters of this country ended up on the Devil's side of the line. That would be a group of fire fighters many times greater than the New York City fire department.

"Yes, and you must admit that we may gripe about drills, and inspection, and cleaning the apparatus, but we sure do get a H— of a lot of satisfaction in fighting fires. The Old Boy just couldn't risk having us in his territory. It would be a real challenge to fight his fires, and we might put him out of business. I'm afraid we are more likely to have our H— here on earth."

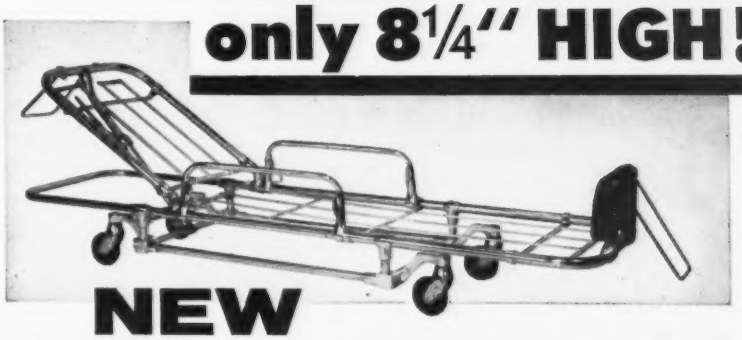
"Well," the lieutenant chimed in, "what would you do for water? It would take a lot of hose line and pumps to reach that far."

"Yes, and there will not be any pump operators there," jibed the engineer. "Pump operators are gentlemen. We put class in this outfit."

"That's doubtful," Bud replied. "At that elevation we should have plenty of gravity pressure. Of course, we don't know much about the water supply. If it turned out to be 'fire water' that would be H—, if the chief was there, too. We would probably go in on charges."

Just then the tapper sounded ending this high level philosophical discussion.

only 8¼" HIGH!



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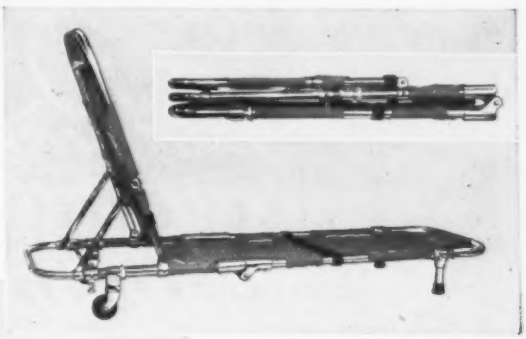
Washington Ambulance COT!!

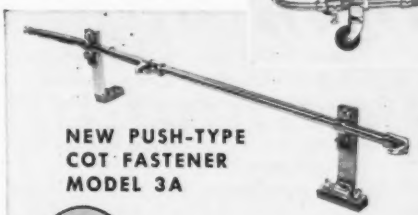
Now you can get an ambulance cot that is REALLY LOW — only 8¼ inches high — the perfect answer for cars that have less head room, and for overhanging stretchers. The new Washington model 21-L is of special value for heart cases, and other patients who must be kept in a sitting position. Washington's famous top-quality craftsmanship is apparent throughout this new model cot with such features as sturdy, rigid construction . . . highly polished aluminum tubing and castings . . . very lightweight yet strong . . . trigger release side rails . . . adjustable back rest with nine-position squeeze-lock adjustment. It always pays to choose Washington for the newest and best in all emergency room or vehicle requirements.

ADJUSTABLE-BACK EMERGENCY STRETCHER MODEL 9AB

Four adjustable positions on back rest, folds to only 4½ inches high! One of Washington's complete line of folding emergency stretchers for every need, in every price range.

See us at booth 30, I.A.F.C. Convention.





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See your jobber or write for FREE catalog!

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WASHINGTON COURT HOUSE, OHIO

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for respiratory emergencies

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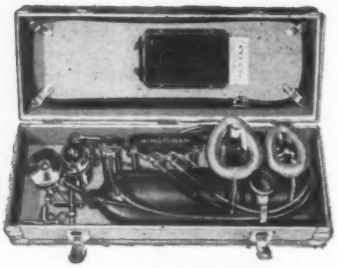

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Dwelling Inspection Program

(Continued from page 32)

Other instructions in the bulletin pertain to the inspection of particular hazards, the use of warning notices, and the filling out of inspection forms. Particular attention is given to the inspection of space heaters, portable heaters, and range burners, and hazardous use or storage of fuel oil. The fire fighters are also instructed to call the attention of parents to the dangers of unattended children, the need for reliable and qualified baby sitters, the telephone numbers of the Fire and Police Departments, and how to use every means of escape from the building in case of fire.

An item of importance reported by the Fire Department was that in-service inspection calls for greater attention to maintenance of fire apparatus. It was necessary to call repeated attention to drivers to watch the vehicle's gasoline supply, since it was found that some apparatus was using as much as 10 gallons of gasoline per day. Despite such minor complications, however, the Newton Fire Department reports that the program is receiving good acceptance.

Longest Aerial Ladder

The Green Bay, Wisconsin, Fire Department, headed by Chief David Zuidmulder, recently accepted this 150-ft. Magirus aerial ladder. This is the largest aerial ladder in use in the United States and was designed specifically for combating grain-elevator fires in the vicinity of Green Bay. The German-built apparatus is mounted on a Seagrave chassis and will be used for special situations as a supplement to standard aerial ladders.

Tribute to Chief Marsh

CHIEF Archie McCraney Marsh of the Columbia, South Carolina, Fire Department, recently completed 50 years of service. His golden anniversary featured a testimonial luncheon by Columbia's citizens who presented the Chief with a color television set and a commemorative gold plaque. The city's mayor, James Clarence Dreher, Jr., awarded Chief Marsh an inscribed gold pocket watch as a gift from the municipal government. Members of the fire department held a surprise party, presenting the Chief with a silver service set.

Chief Marsh joined the fire department in 1907 when Columbia's population was only 23,000 in a four-square-mile area. All city fire apparatus was horse-drawn and included 4 steamers, 3 hose wagons and a hook and ladder.

The first motorized equipment was a Hudson automobile purchased in 1912 as the Chief's car. This indicated the beginning of the final days of service for the 30 sturdy Percheron and Clydesdale draft horses.

By 1919 the horses were replaced by three mechanized trucks. In that year Chief Marsh was made assistant chief and five years later was elected to chief.

At present the Columbia Fire Department has a roster of 136 men, 25 pieces of apparatus and 46,500 feet of hose. The headquarters building, erected in 1949, features an excellent training tower constructed in 1952. There are three other fire stations, and a fifth to be constructed.

Chief Marsh *(left)* receives a gold watch from Mayor J. Clarence Dreher, Jr., of Columbia.

Globe DURABLE FIREMEN'S Suits

when you invest in quick-hitch suits buy the BEST— buy GLOBE!

Before you buy ANY firemen's clothing, see the GLOBE line. We'll let you be the judge of their many practical features including the new Globe Neoprene* Interlinings. You'll find them durable; they'll give you more real lasting wear and protection than any suit on the market. Clip out the corner of this ad and get the facts. Do it now, today.

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New Edition of MUNICIPAL FIRE ADMINISTRATION

It's UP-TO-DATE: Published in late September 1956.

It's AUTHORITATIVE: Written by outstanding fire service officers, with special help from the staff of the National Fire Protection Association.

It's REVISED: First published in 1936, the present volume is the sixth edition. It incorporates not only important new material on communications and fire alarm systems, auxiliary water supply, police and fire integration, etc., but also the broad experience of those who have used the earlier editions in day-to-day administration.

It's WIDELY USED: Some of the many cities which have taken, or are conducting group training courses based on this text are:

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No. Las Vegas, Nev.
Richmond, Va.
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New Orleans, La.
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Use the handy order form to join the ranks of leading fire service officers who are making daily use of this book.

MUNICIPAL FIRE ADMINISTRATION, Sixth Edition, 1956, 442 pp. Clothbound.

International City Managers' Association
1313 East 60th Street, Chicago 37, Illinois Date_____

1. Please send me a copy of MUNICIPAL FIRE ADMINISTRATION. Price $7.50 postpaid.
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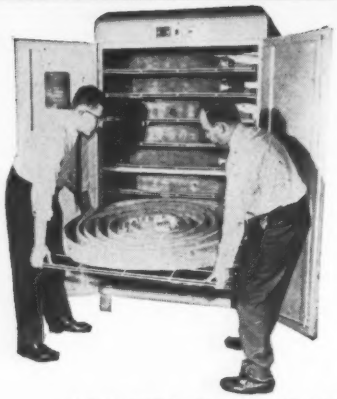

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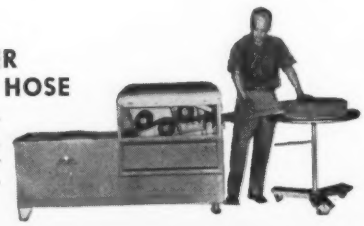

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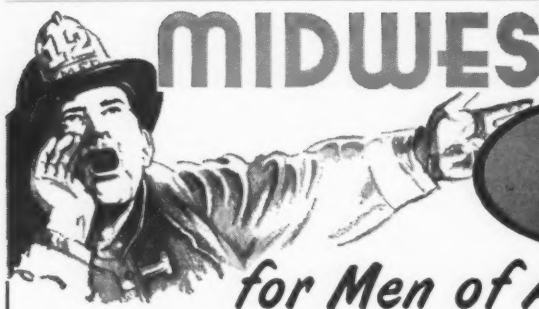

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There are many imitations but no substitute for Midwestern quality, design, fabric texture and safety features. For complete information see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

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Ambulance Service

QUESTIONS have been submitted to FIREMEN magazine concerning the methods of operation and regulations under which volunteer fire departments handle ambulance service. The Hazardville, Conn., Fire Department, headed by Chief Fred Stroiney, is about to purchase an ambulance and members of the department have requested FIREMEN magazine to poll its readers who have had experience in operating ambulances. In general, the department desires answers to the following questions:

How and by whom is the ambulance manned?

What is the liability to the fire department and the individual men by this type of work?

What rules and regulations govern operation of the ambulance?

Volunteer fire departments who have had experience with these problems are requested to send their information to Chief Stroiney, c/o the Hazardville Fire Department and to send duplicate information to the NFPA Fire Services Department, 60 Batterymarch Street, Boston 10, Mass. If sufficient response is obtained, the information will be compiled in an article for the benefit of other fire departments throughout the nation.

Fire School Dates

Arizona: The 5th Annual Arizona State Fire Training School will be held at Phoenix, October 17–19. Write to Battalion Chief Jake Siken, Firefighting Instruction Supervisor, 49 South First Street, Phoenix, Arizona.

Kansas: The 28th Annual State Fire School will be held at the University of Kansas, Lawrence, in October. Write to Director Clyde A. Babb, 111 Fraser Hall, University of Kansas, Lawrence, Kansas.

Michigan: The Eighth Michigan Fire Inspectors' Conference will be held at Kellogg Center on the Campus of Michigan State University, East Lansing, September 24–27. For information write to Phillip K. Alber, Secretary and Treasurer, Michigan Fire Inspectors' Society, Michigan State University, East Lansing.

Ohio: The Twelfth Annual Ohio State Fire School is scheduled to be held at Ohio State University in Columbus, September 9–13. Application blanks are available from Wayne C. Jenkins, Chief of Fire Prevention Bureau, Division of State Fire Marshal, 111 Wyandotte Building, Columbus 15, Ohio.

Membership Report

READ the names of the fire departments listed below. These are the municipal fire services organizations who joined NFPA a month ago.

If your fire department is not an NFPA member we suggest that you visit one of these fire departments, talk with the fire chief and the other members, and ask them how they are using NFPA publications for stimulating interest and improving fire control knowledge and techniques. And by the way, if your fire department is already an NFPA member, why not lend this magazine to some other fire chief who has not yet joined NFPA?

NFPA Welcomes:

the following chiefs and fire departments who recently have joined the Association.

Total fire department membership in the National Fire Protection Association now amounts to 2,454 fire departments with 26,704 fire fighters subscribing to FIREMEN magazine.

Arizona: South Phoenix Fire Department, Phoenix.

California: Rancho Santa Fe Fire Protection District, Rancho Santa Fe.

Georgia: Chief Sam M. Stewart, Cave Spring Volunteer Fire Department, Cave Spring.

Illinois: Markham Fire Department, Markham.

Massachusetts: Wayland Fire Department, Wayland; Weston Fire Department, Weston.

Missouri: Blue Springs Volunteer Fire Department, Blue Springs.

New Jersey: Hasbrouck Heights Fire Department, Hasbrouck Heights; Chief E. W. Henderson, Marcella Fire Company, Marcella, Rockaway.

New York: Erieville Fire Department, Erieville; Chief Miller M. Fagley, Lumberland Fire Department, Inc., Glen Spey; King Ferry Fire Department, King Ferry; Mount Sinai Fire Department, Inc., Mount Sinai, Long Island; Webbs Mills Volunteer Fire Company, Pine City; Stillwater Fire Department, Stillwater; Wellsville Fire Department, Wellsville.

Oklahoma: Pryor Fire Department, Pryor.

Ontario: Royal Canadian Air Force, Toronto.

Pennsylvania: Chief Gerald Kilmer, Avondale Fire Company, Avondale.

Texas: Chief W. J. Willke, Jr., Jersey Village Fire Department, Houston.

Washington: King County Fire Protection District No. 11, Seattle.

Wisconsin: Sheboygan Fire Department, Sheboygan.

New Publications for Your Fire Station Library!

Firemen's Training Centers

Suggestions on planning and building training facilities for fire fighters, together with descriptions of some of the major training schools in the United States. Prepared by a subcommittee of the NFPA Committee on Firemen's Training.

20 pages, illustrated, 8½ by 11 in.

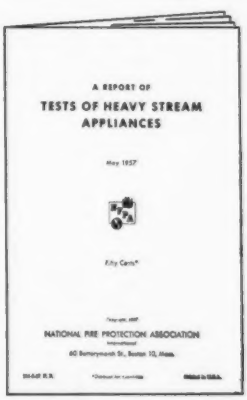
$1.00 per copy

Specifications for Motor Fire Apparatus

Contains recommendations of the NFPA-IAFC Committee on Fire Department Equipment. Particularly useful for chiefs who are about to purchase a new pumper, tanker or aerial ladder, since it has specific recommendations on pumping capabilities, tank capacities and equipment necessary to meet the severe requirements of fireground service.

60 pages, illustrated, 4¾ by 7¼ in.

60 cents per copy



Tests of Heavy Stream Appliances

A report of tests conducted by a subcommittee of the NFPA Committee on Fire Department Equipment. It shows what flows and pressure losses resulted when modern heavy stream appliances of various sizes and capacities were tested, including portable turrets and ladder pipes.

20 pages, illustrated, 4¾ by 7¼ in.

50 cents per copy

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Fire Prevention Contest

CLOSING date is November 30 for the Fire Prevention Contest conducted by the NFPA Committee on Fire Prevention and Spring Clean-up. Judging will be completed in December, and the winning entry will be announced in January.

This year judging will be based upon the year-round fire prevention efforts rather than Fire Prevention Week activities alone. Chiefs who have not obtained entry blanks can get them by writing to the NFPA Public Relations Department.

The contest will be open to all municipalities in the United States and Canada, to industries and to governmental, military, naval and air force installations (see FIREMEN for February 1957). Recommended maximum size of an entry is 18 in. square with the booklet not to exceed 40 pages.

Tested Activities

THE fourth edition of "Tested Activities for Fire Prevention Committees" has just been published by the Federation of Mutual Fire Insurance Companies. This 88-page, 6-in. x 9-in. illustrated booklet describes successful fire prevention activities of prize-winning entries in the annual municipal Fire Waste Contest sponsored by the United States Chamber of Commerce.

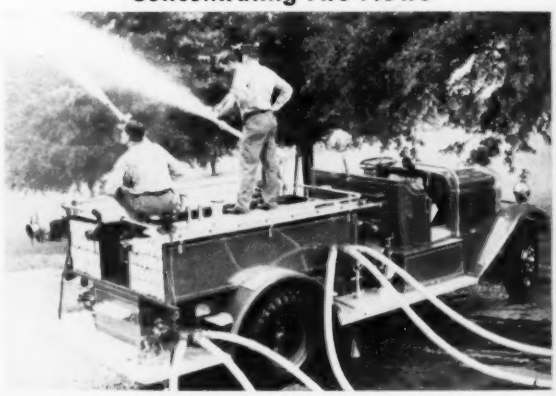
The booklet was prepared to inform civic groups, municipal fire departments, business firms, schools, churches and other organizations how to organize and conduct fire prevention activities. There is an excellent section describing the best methods of using publicity in newspapers, radio and television, theaters, outdoor advertising and public speaking. Another section describes special projects conducted by various municipalities. The book concludes with a number of subjects for year-round fire-prevention activities.

Copies may be obtained at no charge by writing to the Federation of Mutual Fire Insurance Companies, 20 North Wacker Drive, Chicago 6, Illinois.

ERNEST L. MAXIM, of Maxim Motor Company, Middleboro, Massachusetts, died in August at St. Luke's Hospital in that community. He was known to fire departments throughout the nation for his pioneer work in the development of fire apparatus. Since youth he had been active in the Maxim Plant which was founded by his father in Middleboro in 1914. At the time of his death, he was Chairman of the Board of the Company which had grown to be one of the largest manufacturers of fire fighting equipment in the United States. His son, Leighton L. Maxim, is an executive in the Company.

In addition to belonging to a number of business and civic groups, Ernest Maxim was a member of the International and New England Fire Chiefs' Associations, the Massachusetts Fire Chiefs' Club, Mayflower Lodge AF & AM, and other active organizations.

Concentrating Fire Flows



Testing output of new high-volume unit are members of the Charlotte Fire Department who serve as instructors at the North Carolina Fire College. On pump are (*left to right*): Deputy Chief Walter Black, Director of Training Otis Dowdy, and Master Mechanic High King. Intake of 6½-in. lines is siamesed to a 4-in. header connection.

CHIEF Donald S. Charles, of the Charlotte, North Carolina, Fire Department, has sent some information on his new high-volume unit for concentrating effective fire flows. Members of the Department developed this unit to provide two large-volume water supplies from several other small capacity pumpers.

The new unit has 12 intakes to a 4-in. header which supplies water to two deck guns and to two outlets for hand lines. In tests the deck guns discharged approximately 2,600 gpm through 2-in. tips at 80 lbs. nozzle pressure. Each gun has a variety of tips, including 500 and 1,000 gpm fog nozzles, and can be rotated through a 360 degree turn. The unit also has a 750 gpm rotary gear Hale pump.

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Helps
Prevent
FIRES...
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High
Official Fire Prevention
Mascot for Every Kid
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Train them young to guard against fire! And here's the most potent way to do it... Firemen everywhere enlist Sparky as a member of their force... Use Sparky Dolls as prizes in Fire Prevention activities in your locality!
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MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

THE fire service has been trained to think of flows from pumps and hose streams in terms of "gallons per minute" and pressures measured in "pounds per square inch." In a way this is unfortunate as it is difficult for the average person to visualize just how much a gallon amounts to and how much work a pound per square inch actually represents. The United States gallon (which is only 80 per cent of the Imperial gallon) is said to be based on an old French wine gallon. It fills 231 cubic inches of space. This represents a cube a little more than 6 x 6 x 6 inches or 6.15^3 to be more exact.

A much more convenient measure for quantities of water is in cubic feet. This relates the quantity of water to the space required for storage and is a larger unit than the gallon, so is commonly used by waterworks people concerned with water storage and large flows.

A cubic foot of water holds 7.48 U. S. gallons. Thus, for all practical fire fighting purposes, we can say that a cubic foot of water represents 7½ gallons. A 750 gpm pump will discharge 100 cubic feet of water per minute operating from draft at its rated pressure. One standard 250 gpm hose stream equals approximately 33⅓ cubic feet of water per minute.

A square tank 10 x 10 feet in area holds 100 cubic feet of water per foot of depth, so a 4-foot depth of water would hold 400 cubic feet or 3,000 gallons and would be emptied by a 750 gpm pumper in 4 minutes. (A circular tank of just under 11½-foot diameter would hold the same quantity.)

Our cubic foot of water weighs over 61½ pounds, and 750 gallons of water weighs 6,252 pounds. This is the weight of the water that the 750 gpm (or 100 cubic ft.) pump will handle in one minute.

When waterworks men and frequently insurance engineers talk of water pressure, they often speak in terms of pressure head measured in feet to which a given pressure will lift a column of water (disregarding friction losses). This is based upon the fact that one pound psi will lift water 2,309 feet, so that 100 pounds psi pressure will lift water almost 231 feet, and 200 pounds psi will lift water 462 feet.

Likewise, a water column 231 feet high will provide 100 pounds static pressure at the base.

DR. BARRY JOHN BARRODALE, for a long time Secretary of the Louisiana State Firemen's Association, died on July 26. For many years he retained NFPA membership for the Association and also served as Secretary-Treasurer of the Southeastern Division, International Association of Fire Chiefs.

Serving as Acting Secretary of the Louisiana State Firemen's Association is Chief George W. Varnado of Franklin, Louisiana.

For any of these FIRE PROTECTION NEEDS it pays to CHECK with CARDOX *first!*

Simply by checking with Cardox *first,* you'll be sure of getting equipment, apparatus or information that represents the newest and most advanced in fire protection thinking. Recent additions have broadened the Cardox Line — make it more desirable than ever to find out what Cardox has done before you buy or specify *anything* in . . .

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A complete line-up of engineered high pressure fog-foam nozzles, foam and foam deluge nozzles, fog nozzles . . . "Foam-Maker" pumps . . . proportioners, metering valves, etc.

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Low pressure carbon dioxide and/or foam. Used at airports and bases throughout the country. Many built to military specifications.

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Low pressure carbon dioxide . . . in any capacity for single or multiple hazards, indoors or out.
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Utilizing electronic smoke detectors with adjustable sensitivity. May be used to actuate alarm devices or fire extinguishing systems.

Write or ask your Cardox Representative for full information on these and other fire protection needs.

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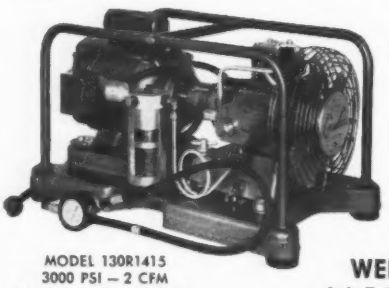
"We know through our own experience that the cost of owning a Cornelius compressor is small compared to the safety it provides our men."

To the many fire departments now using

Cornelius AIR COMPRESSORS



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Share your experience with another chief whose problems and interests are the same as your own. Your response may contribute to higher safety standards for your fellow firemen. Write a brief outline of your experience and mail to:

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Porto-RAK

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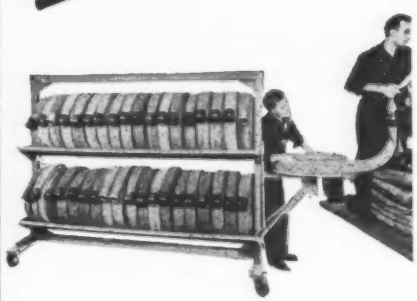

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- SAVES WORK
- KEEPS HOSE AND COUPLINGS OFF THE FLOOR
- ELIMINATES CARELESS ABUSE

PORTO-RAK is the modern way to handle, store and load hose.

PORTO-RAK holds 1800 feet of 2½" hose and proportionally more of 1½" hose in an 8½' space (loading table detached). Easy, convenient to use. Roll it right up to the truck for complete hose reload — out of the way when not in use. Equipped with locking fiber-wheeled casters. **Why lug hose? Let PORTO-RAK do the work!**

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DETROIT 2, MICHIGAN

Resuscitation

RECENT official adoption by the American Red Cross of mouth-to-mouth resuscitation for reviving infants or small children should be significant to fire fighters who frequently have to handle this problem. While the method has been known and applied for many years, it was not until recently that refinements in its application were developed. These refinements led to recommendation by the National Academy of Science-National Research Council of adoption for the method by the Red Cross. Six years ago, when the Red Cross adopted the back-pressure-arm lift method of artificial respiration, a modification of mouth-to-mouth resuscitation was described for use on small children to lessen chance of injuries to the chest wall.

One of the great advantages of this method is that the person applying it can tell whether the application is being effective. Another advantage is that the technique may be used on an adult when his chest cage is injured and compression of the chest by other means of artificial respiration would do further damage, or when fractures of the upper extremities would render "push-pull" techniques ineffective. According to the Red Cross, the mouth-to-mouth or mouth-to-nose technique of respiration may be used in these cases; however, the cycle should be slower than that used for children. Approximately 12 cycles per minute should be adequate. The lower jaw must be held in the "jutting out" position with both hands at all times.

1. Clear the mouth of any foreign matter with the middle finger of one hand. With the same finger hold the tongue forward.

2. Now place the child in a face-down, head-down position and pat him firmly on the back with the free hand. This should help dislodge any foreign object in the air passage.

3. Place the child on his back and use the middle fingers of both hands to lift the lower jaw from beneath and behind so that it "juts out."

or Children

4. Hold the jaw in the position described in Step 3, using one hand only.

5. Place your mouth over the child's mouth and nose, making a relatively leak-proof seal and breathe into the child with a smooth steady action until you observe the chest rise. As you start this action, move the free hand to the child's abdomen, between the navel and the ribs, and apply continuous moderate pressure to prevent the stomach from becoming filled with air.

6. When the lungs have been inflated, remove your lips from the child's mouth and nose and allow the lungs to empty. Repeat this cycle keeping one hand beneath the jaw and the other hand pressing on the stomach at all times. Continue at a rate of about 20 cycles per minute. After every 20 cycles the operator should rest long enough to take one deep breath. If at any time you feel resistance to your breathing into the child and the chest does not rise, repeat Step 2 then quickly resume mouth-to-mouth breathing.

In mouth-to-mouth resuscitation for small children:

1. Clear mouth of foreign matter.
2. Place child in head-down position and pat him firmly on back to dislodge foreign matter from air passage.
3. After placing child on his back lift lower jaw with both hands so that it "juts out."
4. Hold it in that position with one hand.
5. Make a leak-proof seal by placing your mouth over child's mouth and nose and breathe into child with steady motion, applying continuous pressure on child's abdomen to prevent his stomach from filling with air.

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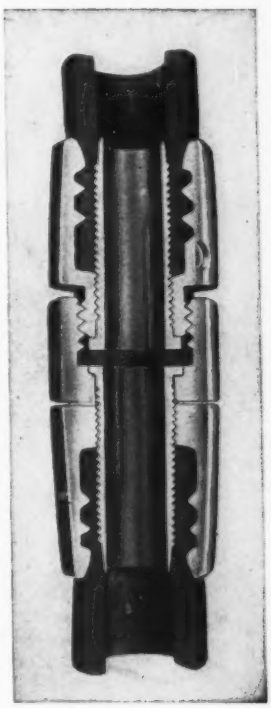
THE ACCEPTED STANDARD FOR HIGH PRESSURE HOSE COUPLINGS . . .



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3. **HIGH-SLIP**—Non-snagging design so that all models slip over ground obstructions.
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The new rubber *lubricant*, BAR-LUBE, makes it *easier* to do a *proper job* of installation. A special oil that makes a "right" tight fit, so that BAR-WAY holding power is right. Oil is inert; rubber is unaffected. Apply *sparingly* to both hose and expander. Available through your local fire equipment distributor.

BAR-WAY BAR-WAY MFG. CO., STAMFORD, CONN.

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The "NEW YORKER"
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REGULATION
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The "CAVALIER"
DROP BRIM
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THE FIREMAN'S FIRST LINE OF DEFENSE

SINCE 1836

We can supply, in addition, everything the fireman needs for his personal equipment. Write for Catalog 350.

CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

Aviation Fire Safety

THE NFPA has just published a series of five new Aviation Fire Safety Bulletins containing important new information and statistics of interest to fire service members. Fire fighters will be particularly interested in Aviation Bulletin No. 190, "Large Loss Aircraft Fire Accidents of 1956." This 48-page, 8½-in. by 11-in. illustrated report presents a study of the 87 major aircraft fire accidents of 1956. It outlines the major factors responsible for the resulting loss of 336 lives and 123 million dollars in property damage. In the 87 accidents, 336 persons were killed, 99 escaped unassisted, 21 parachuted successfully and 17 were rescued by fire fighters or other personnel.

Each of these aircraft fires is analyzed with particular attention given to fire protection deficiencies or successful methods of fire fighting and extinguishment. Aviation Bulletin No. 190 can be obtained from the NFPA Publications Department at $3.00 per copy.

Other bulletins available include No. 191 — "1956 NFPA Airport Survey" — an inventory of the status of the crash protection at 294 U. S. airports served by scheduled airlines; No. 192 — "Draft ICAO Report on Aircraft Rescue and Fire Fighting Services at Aerodromes." This is the report of the work of an international panel on aircraft rescue and fire fighting services under the sponsorship of the International Civil Aviation Organization. Copies of the 36-page bulletin are available from NFPA for $2.50 each.

"Special Aircraft Accident Bulletins — Series 1957, Nos. 1 and 2" — these provide examples of the effective use of airport fire services in extinguishing severe aircraft fires. The bulletins are available from NFPA for 25c each and are identified as SAAB57 — 1 (Pittsburgh) and SAAB57 — 2 (Baltimore).

Fire Chiefs in the South!

PLAN NOW TO ATTEND
THE
NFPA REGIONAL MEETING
AT THE
JOHN MARSHALL HOTEL
RICHMOND, VIRGINIA
NOVEMBER 18-20, 1957

Using Sparky Matches?

A NUMBER of fire departments are already distributing the Sparky fire safety book matches described in the July issue of FIREMEN magazine. These may be purchased from the Sparky Match Program, Attention M. Metzorg, 148 State Street, Boston 9, Massachusetts, at $25 per case of 2,500 books. Larger quantities can be bought at considerable discount. Covers of the books will be imprinted with the fire departments' names in addition to the Sparky safety messages.

The fire departments will have a good source of distribution among smoke shop proprietors, vending machine operators, grocers, and other likely match suppliers. These merchants must purchase their supplies of matches at varying prices and would welcome the opportunity to obtain Sparky match books which are imprinted with the local fire department name. It is likely that the fire department can sell these matches to the merchants at a price in the vicinity of $5.00 per case. This will mean a savings to the merchants who have to pay anyhow for other types of advertising match books. Such pricing will also reduce the overall cost per case to the fire department.

Fire Photo Exhibit

FOR a number of years Warren C. Zapp, of Jersey City, New Jersey, has been contributing fire photographs for publication in FIREMEN magazine. Like all working fire photographers, Mr. Zapp has made good use of his knowledge of fire department operations and has covered some spectacular fires in New York and New Jersey.

For a few years, he has been presenting a fire photo exhibit at the Jersey City Library. This year he plans to give the exhibit for the entire month of October in conjunction with Fire Prevention Week activities. Photos will include a pictorial study of arson, an exhibit of fire schools, one or two mural-type fire photos, over a hundred black and white and color pictures of fireground action, and some models of hand tubs, steamers, and water towers.

The exhibit will be open to the public, and a number of fire service members have already been invited.

SEE YOU AT THE I.A.F.C. CONVENTION
DISPLAY BOOTH 23
NEW ORLEANS MUNICIPAL AUDITORIUM
SEPTEMBER 9-12

WE WILL BE INTRODUCING

Think of it — a badge that's two-thirds lighter than your regular badge, in fact it's so light you hardly know you're wearing it.

ASK YOUR EQUIPMENT SUPPLIER ABOUT THE MANY POLICE AND FIRE BADGE STYLES THAT ARE NOW AVAILABLE IN THE NEW HI-LIGHT METAL.

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Fire Fighters at Valley Forge

AS REPORTED in the August issue of FIREMEN magazine, volunteer fire fighters from Chester, Delaware and Montgomery counties in Pennsylvania furnished protection for the Fourth National Jamboree of the Boy Scouts of America in Valley Forge. In addition, fire protection was rendered by the brigade of Valley Forge Army Hospital in Phoenixville, commanded by Major Melvin R. Jones, Fire Marshal. Additional information and the photos on this page were submitted by the Brigade Fire Chief, J. Douglas Bird, Jr.

Altogether 116 fire companies and more than 1,000 fire fighters were on duty during the two-week Jamboree. They were organized into three fire companies serving continual duty. They responded to 18 fire calls, 7 of which were for grass and wood fires, 5 for truck and automobile fires, 2 tent fires, and other minor incidents. Despite a scarcity of rain and congested tented areas which featured about 1,200 cooking fires, the fire fighters found their task somewhat light. The principal reason for this was the thorough planning for fire protection and careful attention given to fire prevention, particularly through the use of Smokey the Bear and Sparky the Fire Dog.

In addition to the booster tanks carried on fire trucks, the fire companies could also take advantage of 4,500- and 5,500-gal. tank trucks donated for the Jamboree by local industrial companies. Two-way radios and television lines provided continual communications during the two-week event, which was attended by 52,000 Boy Scouts and thousands of daily visitors.

Chester County Volunteer fire companies manned Headquarters Station No. 1. Receiving call is Chief Dispatcher "Len" Emery. Standing at left are Fire Chief J. Douglas Bird, Jr. and Chester County Fire Marshal James Dunn.

Delaware County fire companies were at Station No. 2. Members are shown at left with rescue and fire apparatus, with company living quarters in background. County Fire Marshal Frank Dolan supervised this group.

Fire Station No. 3 was at a strategic road intersection. It was manned by volunteers of Montgomery County, commanded by County Fire Marshal Wilson Green.

DURA-FOG

- STREAM CAN BE SELECTED BY SIGHT OR TOUCH
- CLICKS INTO STRAIGHT STREAM OR DESIRED FOG PATTERN
- FLOATING GLAND TYPE SHUT OFF
- SHOCK ABSORBENT SHUT OFF MECHANISM
- NO KICK BACK
- RUBBER BUMPER
- STURDY HANDLE

VISIT WITH US IN NEW ORLEANS AT BOOTH 38

PLATE 261

FOG CHIEF

- COMPACT
- ADVANTAGE OF SHUT OFF, STRAIGHT STREAM, AND A VARIETY OF FOG PATTERNS
- OPERATES EASILY UNDER HIGH PRESSURE
- NO KICK BACK
- RUBBER BUMPER

PLATE 262

BOTH NOZZLES, 1½" SIZE, CAN BE SUPPLIED WITH EITHER 60 OR 100 GPM DISCHARGE AT 100 PSI, 30° FOG PATTERN.

60 gpm for rural areas or where water supply is limited

100 gpm for cities or where water is plentiful

Our 65th year

POWHATAN BRASS and IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 & 94 Charles Town, West Virginia

Established 1892

44 NEW MACK PUMPERS

Forty-four new Mack pumpers, with canopy cab-forward design, are joining the many other Macks in the New York Fire Department. First of this type in New York, the pumpers' new design will give added protection to personnel against the hazards of New York's increasingly heavy traffic, variable weather and narrow streets.

The new units have been built to the same uncompromising standards that have made Mack first choice wherever firefighting is carried on under most demanding conditions. And the new design rounds out the entire Mack line of fire apparatus . . . apparatus famous for never-failing dependability, for ready accessibility of parts, for easy maintenance and for stalwart performance under all conditions.

A call to your Mack representative is a *must* when you want the most reliable equipment—whether you're ordering traditionally designed fire apparatus, or have specifications of your own. Mack Fire Apparatus, Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

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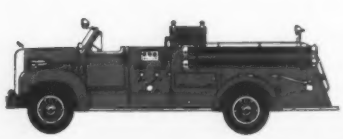
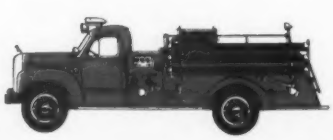
FIRE APPARATUS

COMPLETE LINE OF PUMPERS—500 TO 1250 GPM . . . SQUAD AND HOSE WAGONS . . . AERIALS—65′ TO 100′





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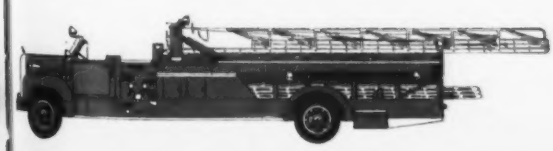
New York's new 750-GPM Mack pumpers, with 5-man canopy cab, are powered by famous Mack Thermodyne® engines. 1250-GPM portable deluge nozzle. 375-gallon booster tank, 300 feet 1" booster hose and fog nozzle.

...COMBINATION LADDER TRUCKS



SEE YOU AT THE I.A.F.C. CONVENTION

Don't miss the exciting Mack exhibit at the International Association of Fire Chiefs' Convention in New Orleans, September 8-12.

THE INVINCIBLE NOZZLE

STATIONARY AND PORTABLE TYPES

FOR STANDPIPE USE

A COMPLETE FIRE FIGHTING UNIT

Fig. 2

Operates by handle. Made in four sizes: 300 gpm, 600 gpm, 1100 gpm and 2000 gpm.

Fig. 3

Equipped with Locking Device to set nozzle elevation without an attendant. Comes in sizes from 300 gpm to 10,000 gpm.

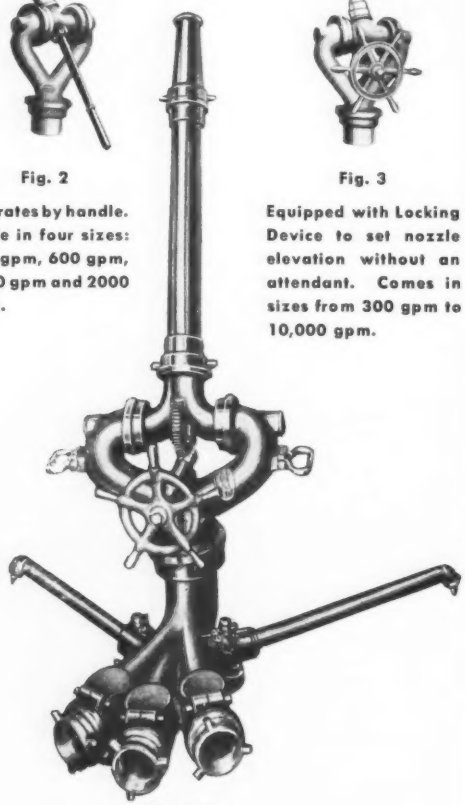


Fig. 149

PORTABLE TYPE — SPECIAL MOUNTING

A portable deluge set with ball bearing joints, easy curves and large waterways that result in solid fire streams always under perfect control. Capacity 1500 gpm. Shutoff in Tee can be furnished.

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NFPA FALL CONFERENCE

THE 1957 Fall Conference of the National Fire Protection Association will be held in Richmond, Virginia, November 18–20. Headquarters will be at the John Marshall Hotel. The registration desk will be open Sunday evening, November 17, and throughout the three-day Conference. Registration for the meeting will cost $7 on Sunday and Monday, and $5 on Tuesday and Wednesday, but, in keeping with the NFPA tradition for these meetings, firemen in uniform may attend the Conference without paying any fee and are cordially invited.

The scheduled program has a number of items which should be of particular interest to fire service members in the South.

Morning sessions will begin at 9:30 A.M., afternoon sessions at 1:30 P.M., and committee sessions at 3:30 P.M. Fire service members will gain considerable benefit from attending both the regular program and committee sessions. The committees will meet simultaneously, but everyone attending the Fall Conference is invited to attend the sessions and present his comments for discussion.

The Monday morning session will feature talks by NFPA President John A. Neale, Chief Engineer, National Board of Fire Underwriters; NFPA General Manager Percy Bugbee; William G. Schultz, Vice President, Lumbermens Mutual Insurance Company; and Ross A. W. Switzer, Fire Marshal, Saskatchewan, Canada. Their chosen topics covered will include "Looking Ahead in Fire Safety," the NFPA program and policies, the Society of Fire Protection Engineers, and the NFPA Fire Marshals' Section.

The Monday afternoon session will feature discussions of lessons from large loss fires, recent flammable liquids fires and explosions, and recent gas explosions.

On Tuesday morning the session will be largely a question and answer period about the meaning and application of the National Electrical Code. Merwin Brandon, Chairman, NFPA Electrical Section and Vice President, Underwriters' Laboratories, New York, will be one of the speakers.

Tuesday afternoon discussions will focus attention on the problems of storing tobacco, lumber and other combustible commodities; fire problems of the furniture and chemical industries; and new developments in special fire extinguishing systems. Committee sessions on Tuesday afternoon will cover fire extinguishers, home fire alarm systems, and farm and forest fire protection.

Wednesday morning will highlight important problems facing fire departments. Chief Henry G. Thomas of Hartford, Connecticut, Vice President of NFPA, will speak about fire department organizational problems and economy in the fire service. Warren Y. Kimball, Manager, NFPA Fire Services Department, will discuss problems of the volunteer fireman, and Loren S. Bush, Chief Engineer, Board of Fire Underwriters of the Pacific, and Vice President of NFPA, will also give attention to fire service developments. The Wednesday morning session will conclude with a talk covering the use of automatic sprinkler systems by

fire departments. This will be given by T. Seddon Duke, President, Star Sprinkler Company, Philadelphia, Pennsylvania, and Past President of NFPA.

Subjects for Wednesday afternoon include: atomic energy training programs, new problems in cotton storage and handling, air condition fire problems, and building exits for fire safety. Committee sessions on Wednesday afternoon will include discussions of dust explosion hazards, industrial fire brigades and watchmen, and fire apparatus and hose.

Testing Small Fire Extinguishers

THE Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. has published "Building Materials and Structures Report 150," issued June 14, 1957, on "Methods of Testing Small Fire Extinguishers" by Messrs. H. Shoub, T. G. Lee and J. M. Cameron of the National Bureau of Standards. The publication is available from the Superintendent of Documents for fifteen cents (8 inches by 10 inches, 9 pages).

The study was undertaken by the Bureau under the sponsorship of the United States Coast Guard to "establish some standard of suitability of extinguishers for use on small motorcraft." In issuing the report the Bureau adds that it feels that the work was of sufficiently broad aspect to allow extension of the applicability of the findings to many types of small flammable liquid fires.

Home Fire Protection

THE Better Business Bureau, with the assistance of NFPA, has published a booklet titled "Facts You Should Know About Home Fire Protection." This is one of the "Fact" Booklet Series issued by the Bureau on a rather wide range of subjects as an aid to the general public. It will be an excellent piece for distribution during Fire Prevention Week and home inspections by fire departments.

Fire service members who want copies of this interesting booklet should order directly from the Boston Better Business Bureau, 52 Chauncy Street, Boston 11, Mass. A minimum order of $1.00 is required and the scale of prices is as follows:

2 to 99 — 6 cents each.	750 to 999 — 5¼ cents each.
100 to 249 — 5¾ cents each.	1,000 to 2,999 — 5 cents each.
250 to 749 — 5½ cents each.	3,000 to 11,999 — 4¾ cents each.
	Over 12,000 — 4½ cents each.

These prices are F.O.B. Boston.

"Quarterly" Reprints

FROM the July, 1957, NFPA *Quarterly*, the following reprints are now available:

Q51-1 Palletized Storage Fire Problems, by M. H. Nickerson — 25 cents.

Q51-2 Uranium Scrap Fire Control, by F. L. Brannigan — 25 cents.

For quantity orders over 25, discounts are given. For exact quotations write the Association giving the quantities desired.

CLASS A PUMPERS ranging to 1000 GPM capacities with HIGH PRESSURE FOG . . . .
CRASH TRUCKS . . . TANKERS . . . with famous CHAMPION Pumps of 1-2-3-4 stages

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Chicago and Chippewa Falls, Wis.

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You'll want to know all about our low cost finance plan or combination PURCHASE-RENTAL plan.

Fires in Cotton Shipments

THE Southern Pacific lines of the Texas and New Orleans Railroad Company recently developed some techniques for handling freight car fires involving cotton shipments. For some time, railroad officials were concerned because fires had been increasing in frequency in long-haul movement of cotton on the lines. From 1945 to the present, cotton shipments were moving by hundreds of carloads from California and Arizona to New Orleans and eastern seaboard ports. During one eighteen-month period in the early 1950's the railroad's fire losses reached $430,897.

To solve this problem the Southern Pacific asked for assistance from the Stanford, California, Research Institute. In February, 1954, researchers headed by members of Southern Pacific's Engineering Freight Protection, Merchandise and Station Service Department began a fourteen-month study of possible fire causes.

Basic cause of the cotton fires was found to be two types of friction — metal against metal, as bale bindings rubbed each other in transit, and cotton rubbing on the wooden surfaces of the boxcar. One thing that the researchers learned was that cotton rubbing on wood usually started the wood burning first.

Additional tests during the fourteen-month study brought out the fact that when such fires occurred in the freight cars "indirect" attack with water fog provided the most successful means of extinguishment. The method developed by the researchers required that side doors of the car be kept closed and the fire extinguished by cutting a hole in the car roof and inserting a fog nozzle.

Better extinguishment was obtained when a wetting agent was used with the water fog.

Now when fire occurs in transit on one of the cars, the car is isolated near a roadway and a source of water supply, and the nearest fire department is summoned. To pinpoint the exact location of the fire, the men look for blistering paint on the exterior of the car or feel the sides for the hottest sections. Once the location is found then the fog nozzle application is made above this point through the roof. Southern Pacific, if its employees are the only ones fighting the blaze, recommends a waiting period of at least one hour before the car doors are opened. Where city, county or other municipal fire departments are handling the situation, the fire officer in charge makes the decision as to when car doors should be opened.

Other methods suggested for determining the location of fire inside railroad cars carrying cotton are: (1) To wet the top of the car, then the area under which the fire is concentrated will dry first. (2) To cut a hole in car roof halfway between the doorway and the end of car, apply water fog and wetting agent. If fire is found to be at opposite end, follow the same procedure where blaze is concentrated.

If flying saucers ever are a reality — they'll be using the FEDERAL Beacon Ray for warning.
Seeing is believing!
For the past year we have called your attention to the superior features of FEDERAL SIRENS AND LIGHTS.
Seeing is believing, and most of the items listed below will be among those on display in our booth for your close inspection.
BE SURE TO STOP AT BOOTH 59. See the latest and finest in lights and sirens.
DON'T FORGET — BOOTH 59
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The now famous and indispensable Beacon Ray 360° revolving light. — For all fire vehicles.
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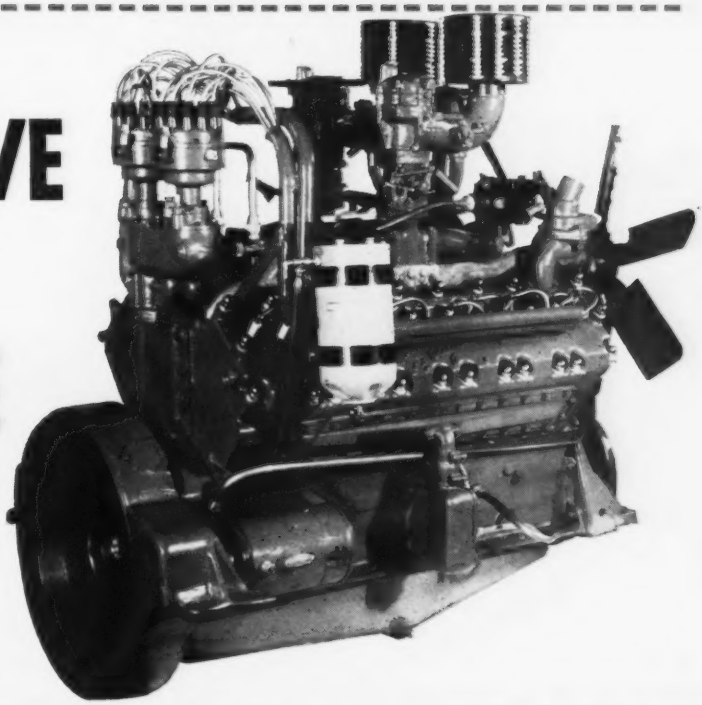
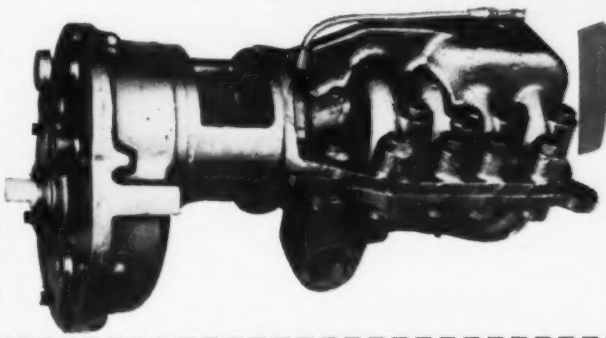
New SEAGRAVE V-12 ENGINE



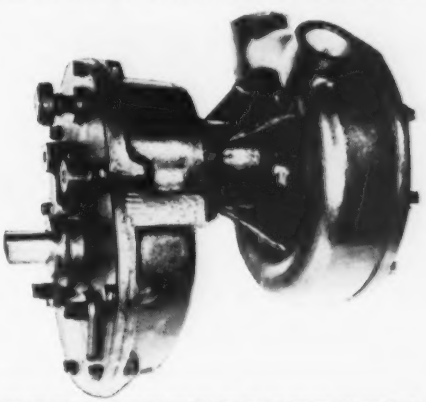
New Model 531 with 251 H.P. Modified breathing system with larger inlets in cylinder blocks; special design cylinder heads; increased area around inlet valves; larger inlet manifolds; increased size down-draft carburetors; new type pressure governor; new engine-driven fly ball governor; new type air cleaners with reduced flow resistance; new crankcase ventilating system; improved engine cooling; low compression ratio 7.9 to 1.



New SEAGRAVE HIGH PRESSURE PUMP

This 4-stage pump now has replaceable plastic impregnated packing to eliminate any necessity for disassembling pump to adjust or replace packing. Standard SAE transmission power take-off drive permits use of pump when truck in motion. Fine grain bronze construction making possible working pressure in excess of 1000 pounds per square inch.

New SEAGRAVE BOOSTER PUMP



Small and compact with same transmission case and gears used on four-stage high pressure pump. Operates pumping from booster tank or fed from hydrant by 2½ inch hose. Bronze impeller mounted on stainless steel shaft. Shaft seal is carbon ring mounted in rubber running against hard faced ring for long, trouble-free service. Pump shaft and input shaft mounted on ball bearings. Gear teeth all flame hardened.

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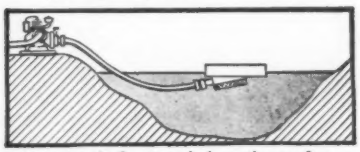

Strainer drafts just below the surface and down to the last few inches.

WRITE your distributor or manufacturer for brochure and prices. Specify hose size.

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Highway 22, P. O. Box 155
DUNELLEN, NEW JERSEY

Demand for "Flexrite" fire hose, double jacketed and made with Dacron polyester fiber filler cords, has necessitated increased production by *Hamilton Rubber Manufacturing Company Division*, Ace-Hamilton Manufacturing Corporation, Trenton 3, New Jersey. . . . . *Gen-A-Matic Corporation*, 14741 Bessemer Street, Van Nuys, California, announces increased performance efficiency in its centrifugal self-priming pump. Built for rugged pumping "Gen-A-Matic Self-Priming Pumps" are guaranteed not to clog, however muddy, sandy or pebble-laden the waters. . . . . A complete line of hose brass goods by *Akron Brass Manufacturing Company, Inc.*, Spruce Street, Wooster, Ohio, will be exhibited September 8–12 at the New Orleans I.A.F.C. 84th Convention. Stop at the display booth!

For the latest information on multi-stage centrifugal fire pumps, ask for Bulletin 8733 and Bulletin 8734 from *American Fire Pump Company*, P. O. Box 219, Battle Creek, Michigan. . . . . Catalog No. 10 presents a comprehensive guide to safety equipment for all industries. Write to *General Scientific Equipment Company*, 7516 Limekiln Pike, Philadelphia 50, Pennsylvania. . . . . You'll find the new "Power Points Digest" Volume 12, No. 4, on electric power plants for buildings and vehicles of real value. It is available on request from *D. W. Onan & Sons, Inc.*, Minneapolis 14, Minnesota. . . . . Myron E. Whitney has been named manager of marketing for *Bendix* two-way mobile radio products. . . . . A new brochure illustrating and describing the features of the Series 800 Deluxe fire engines is yours for the asking from *American LaFrance Corporation*, Elmira, New York.

Specify Bar-Way high pressure hose couplings and Bar-Lube, new rubber lubricant for proper job of installation, products of *Bar-Way Mfg. Company*, Stamford, Conn. . . . . Don't forget to stop in at Booth 23 at the I.A.F.C. Convention to see the new "Hi-Light" badges on display by *V. H. Blackinton & Company, Inc.*, 130 Commonwealth Avenue, Attleboro Falls, Mass. . . . . *R. D. Werner Company, Inc.*, 295 Fifth Avenue, New York 16, N. Y., announces its line of aluminum ladders to be the first listed by Underwriters' Laboratories, Inc. . . . . Interested in fire protective garments and heat reflective curtains? Write for 8-page illustrated in color catalog to *Fyrepel Products, Inc.*, Newark, Ohio. . . . . Joseph H. Helm becomes the new sales engineer in the Milwaukee office of *Mine Safety Appliances Company*.

Bulletin ECR-490A describes General Electric Company's new Transistorized Power Supply for two-way radio units. Write to *General Electric Communication Equipment*, Electronics Park, Syracuse, N. Y.

this month's EQUIPMENT NEWS

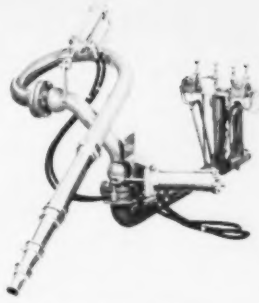
Floyd Baker Retires

Floyd F. Baker, veteran fireman and director of the firemen's training school conducted by John Bean Division, Food Machinery and Chemical Corp., Lansing, Michigan, has retired after a long career in fire fighting and firemen's training.

From 1913 to 1943, he was chief of the Highland Park, Michigan, fire department. When he retired from the department, he joined the Michigan Office of Civil Defense until 1946. Then began the training program at Lansing where for 12 years he instructed firemen from many countries of the world in the Company's fog fire fighting equipment.

Gift Ash Tray

V. H. Blackinton & Co., Inc., Attleboro Falls, Massachusetts, is now producing this "Lucite lifetime embedment" as a desk set. Designed particularly as a gift for fire chief or other members of the fire service, the set includes the selected badge embedded securely in the lucite form. The lifetime embedments may be made into desk pen sets, ash trays, desk calendars, paperweights, and other items in various sizes and shapes. Write to the manufacturer for further information.



New 3-in. Monitor

Chiksan Company, Brea, California, is now producing a new "Intelli-Giant" master stream monitor nozzle with a 3-in. diameter in addition to the earlier 4-in. and 6-in. nozzles. According to the Company, the new nozzle is recommended for volumes up to 1,000 gpm and is capable of throwing a stream 280 ft., using a 1½-in. nozzle with nozzle pressure of 115 lbs. It may be controlled hydraulically with water pressure diverted from the main-stream intake, or controlled by hand. For cold climates, a closed-circuit hydraulic power system is available. Remote controls may also be used to allow operation of this nozzle from a safe vantage point.

Truck for Mine Fires

Mine Safety Appliances Company of Pittsburgh, Pa., recently developed this special vehicle for handling fires in mines. Known as Model 2100, it has a 20-horsepower 3500-rpm electric motor coupled to a 100-gpm two-stage centrifugal pump, a 2100-gallon tank and carries several thousand feet of fire hose. The all-steel chassis is 18 ft. long, 7 ft. wide and 50 in. high and has bituminoid coating for interior finish. The motor pump assembly, including controls and valves, is recessed in the side of the tank.

Unusual Hose Load

Chief William S. Ettenger, of the Newtown, Pa., Fire Association poses with one of his pumpers to demonstrate a hose load of 2,500 feet of 2½-in. Dacron hose, manufactured by Hamilton Rubber Manufacturing Corporation, Trenton, N. J.

Why Scott Air-Paks are the best Breathing Protection Equipment you can buy!

Because:

IN SMOKE—CHEMICAL FUMES—POISONOUS GASES

You Breathe Pure Air as Cool and Fresh as an Ocean Breeze!

Modern synthetic materials, when burned, produce quick-acting poisonous gases. That's why you need breathing protection equipment that is modern and fool-proof. The Scott Air-Pak enables fire fighters to enter dense smoke, chemical fumes, and poisonous gases with complete respiratory safety. In any atmosphere, the wearer of a Scott Air-Pak breathes only cool, pure, fresh air.

The Scottoramic Mask gives unlimited vision in all directions. It helps you keep out of danger zones.

Is your fire company Scott equipped for modern rescue work? Let us show you how little it costs. You'll be amazed at the annual savings over other types of equipment. Write us today or contact your nearest Scott Distributor.

SINCE 1932 Scott FOR SAFETY—FOR SERVICE

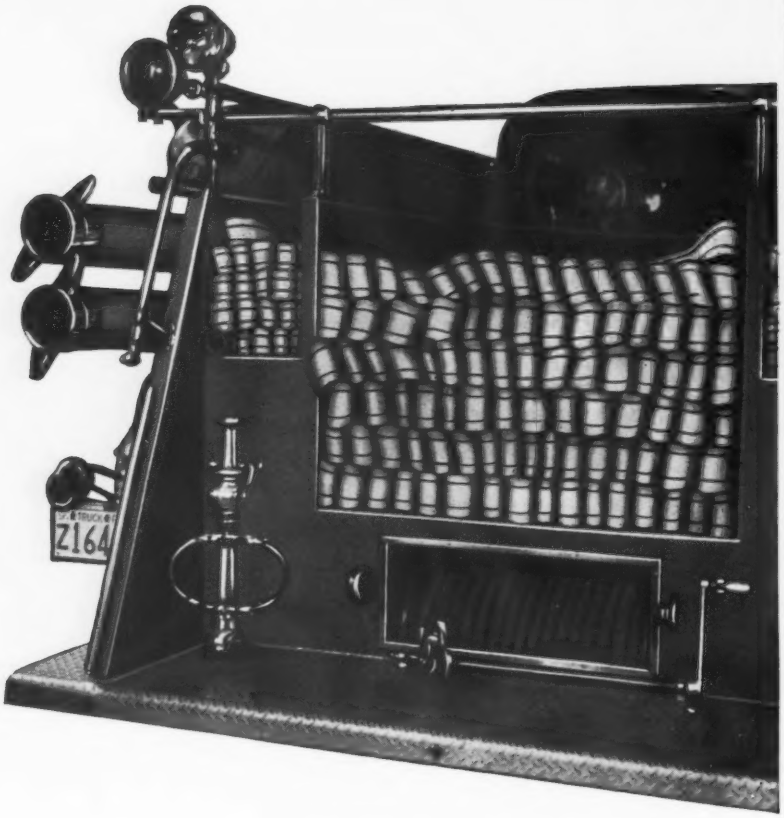
Celebrating a Quarter of a Century of Progress

Safety Equipment Division

SCOTT AVIATION CORP.

236 ERIE STREET LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 250 West 57th Street, New York 19, N. Y.



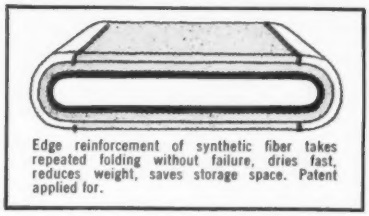
New Tuff-Edge® Hose defeats wear at the folds, where most failures begin

Here's a lighter weight, more flexible fire hose that stands up under the worst punishment of all—constant folding and unfolding! Longer life is built right in to Delaware Brand TUFF-EDGE HOSE by Quaker.

Reinforcement of the vital fold edges by 100% polyester filament gives TUFF-EDGE HOSE new high resistance to flexing, faster drying in folds and creases (where mildew formerly could start), maximum flexibility for more compact loading and racking.

TUFF-EDGE HOSE, testing at 600 lbs., is 15% lighter, 50% stronger than former high-quality cotton-jacket hose. Available in 50-foot lengths, in 1½" and 2½" diameters.

For complete information, write H. K. Porter Company, Inc.; Quaker Rubber Works, Philadelphia 24, Pa.; or Pioneer Works, Pittsburg, Calif.



Edge reinforcement of synthetic fiber takes repeated folding without failure, dries fast, reduces weight, saves storage space. Patent applied for.

QUAKER RUBBER DIVISION

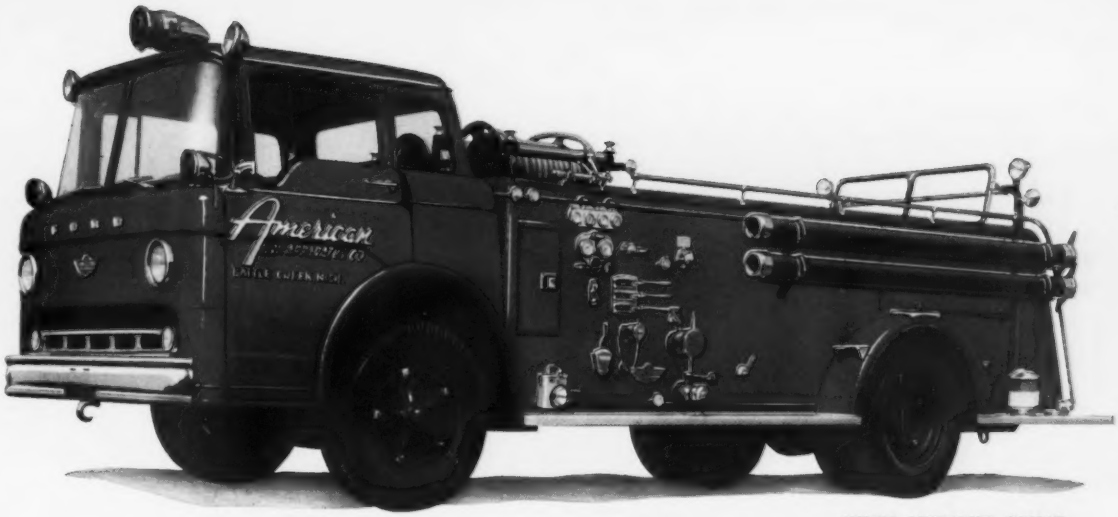
H. K. PORTER COMPANY, INC.

Back-Pack Resuscitator

MANY readers of FIREMEN magazine will be interested in a new resuscitator just developed by the National Cylinder Gas Company, 840 North Michigan Ave., Chicago 11, Illinois. Weighing about 20 pounds with its two "D" oxygen cylinders, the resuscitator is designed for quick fastening to a man's back. It is held in place by strong elastic bands. It features a "Handy" control for adjusting the flow of oxygen to the lung capacity of a patient providing positive and negative pressure until the patient's breathing is restored. A twist of one dial then converts the unit to an inhalator to provide 100 per cent oxygen. It can also be used as an aspirator to suck obstructing material from the throat.

While designed particularly for use in areas or air contamination such as in mines or in the vicinity of chemical explosions, smoke or dust, the unit can be equipped with dual oxygen masks — one for the victim and one for the rescuer. Through these masks both persons can receive 100 per cent oxygen from the back-pack supply tanks. Strap-on masks make it possible to give oxygen to a victim while he is being carried on a stretcher, providing the back-pack is worn or carried by one of the stretcher carriers.

The resuscitator can be supplied with up to 200 feet of extra tubing so that the lightweight mask can be lowered to a victim. This unit would also be useful for resuscitation of electrical workers who might have suffered shock while above ground on a pole. Photo shows application of back-pack resuscitator. A strap-on mask is optional and normally would be used only where the wearer of the resuscitator needed to use both hands for another purpose.



WITH MIDSHIP PUMP

Choose

a multi-stage midship or front-mounted pump... select the chassis and body *you* prefer on your American Fire Truck

You're in command when you come to American . . . because *you* select the combination that meets your community's needs.

For example, you select the make and model of commercial chassis you want—conventional or tilt cab, V-8 or six. Then you choose a dependable, high-performance Barton-American Pump—multi-stage midship or front-mounted.

Add to that all the advanced, exclusive, American-engineered features you need to fulfill your exact requirements. When your truck is completed, you'll be in command of a unit tailored to your needs . . . unmatched for fire-fighting effectiveness!

To get more of everything you want, order your next truck "the American way."

WITH FRONT-MOUNTED PUMP

Contact your nearest American Representative for full details!

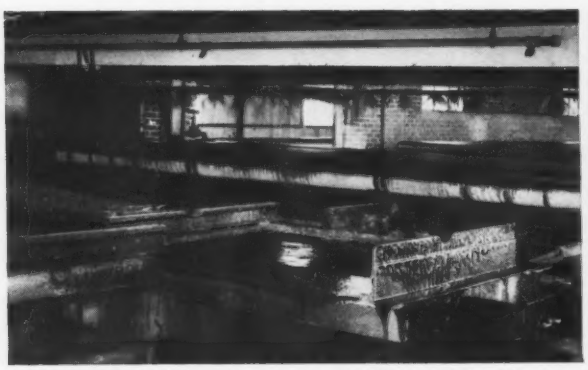
American

FIRE APPARATUS CO.

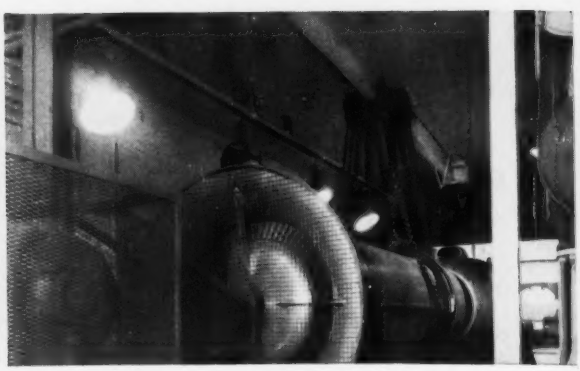
Main Office: Main Street Rd., Battle Creek, Mich. Plants at: BATTLE CREEK, MICH., MARSHALLTOWN, IA., STRATFORD, ONT.

Special Hazards call for *Special Protection against*

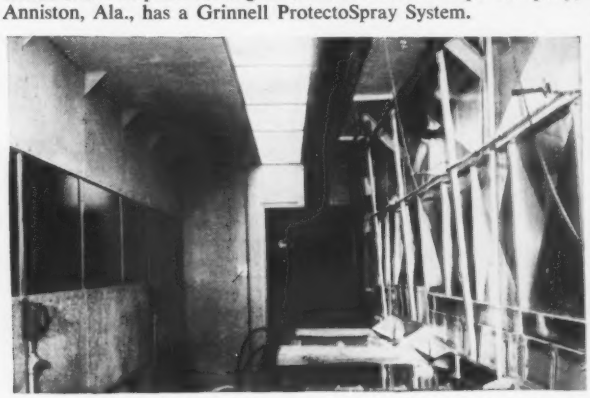
You can't be expected to know *all* the answers about every type of fire hazard. But Grinnell, with 87 years' experience protecting against fire hazards of every description, has thorough background knowledge upon which you can draw. Let a Grinnell Fire Protection Engineer recommend the best system under every circumstance. Write Grinnell Company, Inc., 261 West Exchange St., Providence, R. I.



WATER SPRAY Asphalt coating machine at Alabama Pipe Company, Anniston, Ala., has a Grinnell ProtectoSpray System.



AIR FOAM Engine test cell at Trans World Airlines, Inc., Kansas City, Mo., is protected by a Grinnell ProtectoFoam System.



DRY CHEMICAL Hot oil dip tanks at Royal Canadian Air Force Supply Depot, Namao, Alta., has a Grinnell dry chemical installation.

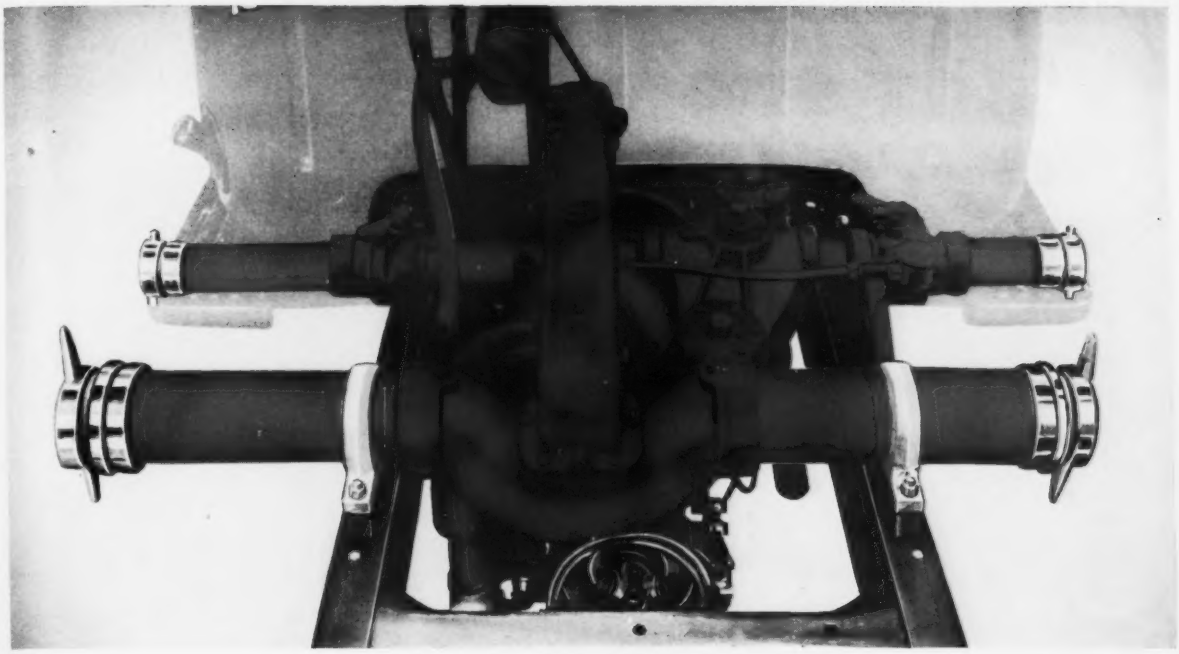
CARBON DIOXIDE Record storage vault at West Penn Power Company, Greensburg, Pa., uses a Grinnell carbon dioxide installation.

GRINNELL

Manufacturing, Engineering, and Installation of Fire Protection Systems Since 1870

There's a GRINNELL Fire Protection System for every fire hazard

- Automatic spray sprinklers — wet pipe, dry pipe, and Simplex systems
- Spray sprinklers with rate-of-rise detection — Multitrol deluge or dry pipe systems
- Emulsion and vapor dilution extinguishment — Mulsifyre and ProtectoSpray systems
- Water spray for cooling, insulation, and controlled burning — ProtectoSpray systems
- Air foam blanket — ProtectoFoam systems
- Carbon dioxide blanket — C-O-Two systems
- Dry chemical systems



GET 3 BIG ADVANTAGES

WITH THE VERSATILE BARTON-AMERICAN DUPLEX-MULTISTAGE CENTRIFUGAL PUMP

You'll get faster control - and higher performance - with a Barton-American Type DMA Pump. These three outstanding design features explain why - and *only* the DMA has them all!

1. In *one* compact pump unit, you have a choice of three pressure and volume selections: High volume at normal pressures, normal high pressures, and extremely high pressures for fog guns. All operate at moderate engine speeds . . . and by merely shifting a *single* lever.
2. Two impellers, *independently* shafted and geared, will operate alone or together in series. Volume pump handles dirty water *without* damage to the high pressure pump.
3. This Barton-American Duplex multistage centrifugal pump has one-point lubrication similar to truck transmission housings. All bearings are bathed in oil inside . . . there's no need for water lubrication.

Typical pump panel. One lever gives you instant selection of *Capacity-Pressure-Series* operation—a Duplex Pump feature.

Yes, these unique, advanced features, plus automatic pressure-operated valves and other advantages provide you with *outstanding* fire-fighting power. For full details, write for . . .

BULLETIN 8733
DMA Duplex Multistage Centrifugal Midship Pumps

BULLETIN 8734
DMB Duplex Four-Stage Midship Pumps

★ AMERICAN ★
FIRE PUMP COMPANY

AMERICAN FIRE PUMP COMPANY • P. O. BOX 219 • 803 MAIN STREET ROAD • BATTLE CREEK, MICHIGAN

This beautiful, modern plant for the manufacture of Old Gold and Kent cigarettes was designed and engineered by Lockwood Greene Engineers, Inc., New York; H. L. Coble Construction Company, Greensboro, General Contractors. Protection facilities include..

ADT

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

BURGLAR ALARM SERVICE • WATCHMAN'S REPORTING SERVICE

MANUAL FIRE ALARM SERVICE

Conceived, planned and built in every detail as the world's most modern cigarette factory, P. Lorillard Company's new prize-winning plant embodies the closest possible approach to automatic manufacture.

Automation applies even to protection. Storage and shipping rooms are guarded *automatically* by ADT Burglar Alarm Service. Sprinkler systems under ADT supervision summon fire-fighting forces *automatically* in case of fire. Watchmen report to the ADT Central Station while on patrol, and there is a complete ADT Manual Fire Alarm System including general alarm and pre-signal gongs and emergency call stations.

Whether your project is large or small, there is an ADT *Automatic* Protection Service to meet every requirement. Thousands of concerns from coast to coast depend on ADT for better protection against fire, burglary and other hazards, *at lower cost.*

Our local sales representative will be pleased to discuss your problem. Call us if we are listed in your phone book; or write to our Executive Office.

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY

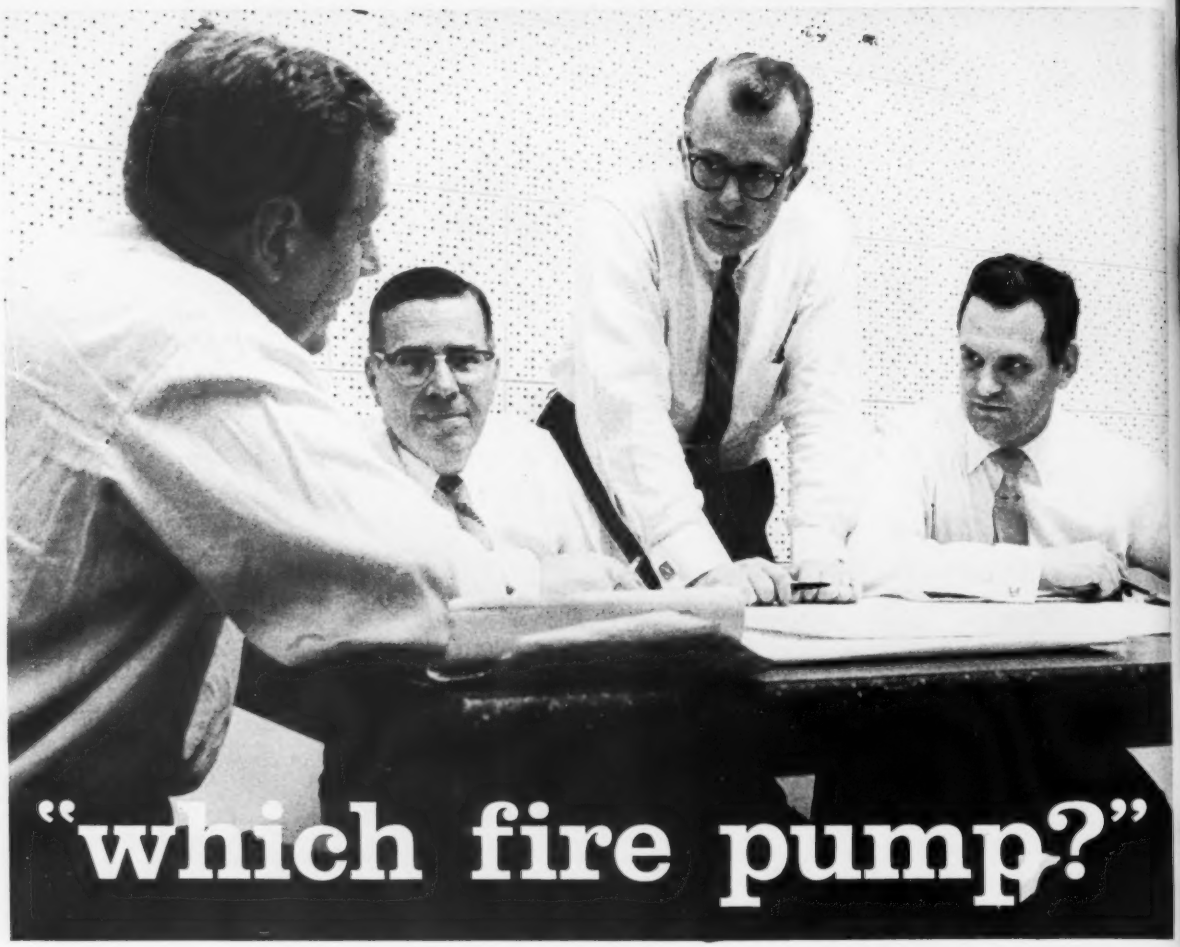
A NATIONWIDE ORGANIZATION

Executive Office: 155 Sixth Avenue, N. Y. 13

IT'S NEW and DISTINCTIVE

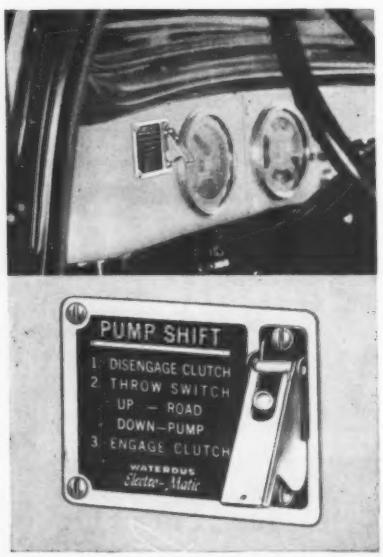
Ask your MAXIM representative about the MODEL VX

MAXIM MOTOR COMPANY, MIDDLEBORO, MASS.



"which fire pump?"

This civic group wants dependability, low maintenance, and ease of operation; they'll choose the WATEROUS Electro-Matic* with push-button controls.



The WATEROUS *Electro-Matic* fire pump meets these requirements with a large plus! Completely automatic controls mean quicker, safer pumping. Completely new and thoroughly proven, this pump is outstanding in performance. And there is the WATEROUS famous 2-piece, horizontally split casing with protected, oil lubricated ball-bearings. Quality—long life—dependability!

Fast "in cab" shift—The Electro-Matic shift control is located on the instrument panel. Pump shift is actuated by flipping this switch *without leaving the driver's seat.* Convenient, fast, dependable—precious seconds saved.

Send for catalogue today.
Department 207

WATEROUS *Electro-Matic*

80 E. Fillmore Ave., St. Paul, Minnesota

*Registration applied for.

See the WATEROUS exhibition booth (#95) at the International Association of Fire Chiefs' convention, New Orleans, Sept. 8-12, 1957.

Chief T.P. Treadwell of Fort Collins, Colorado

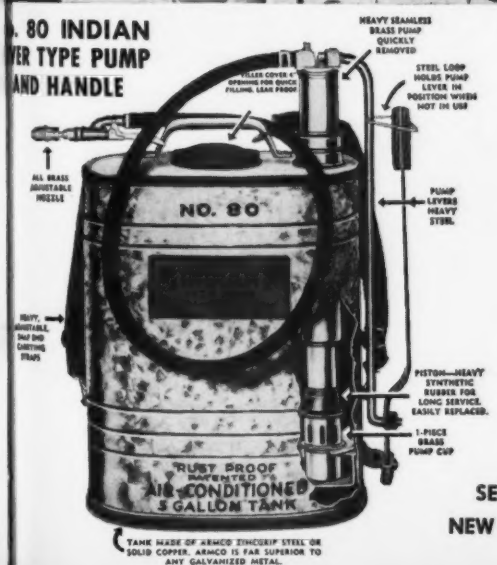
(Winner of 1st place in fire prevention in cities of less than 20,000)

SAYS:

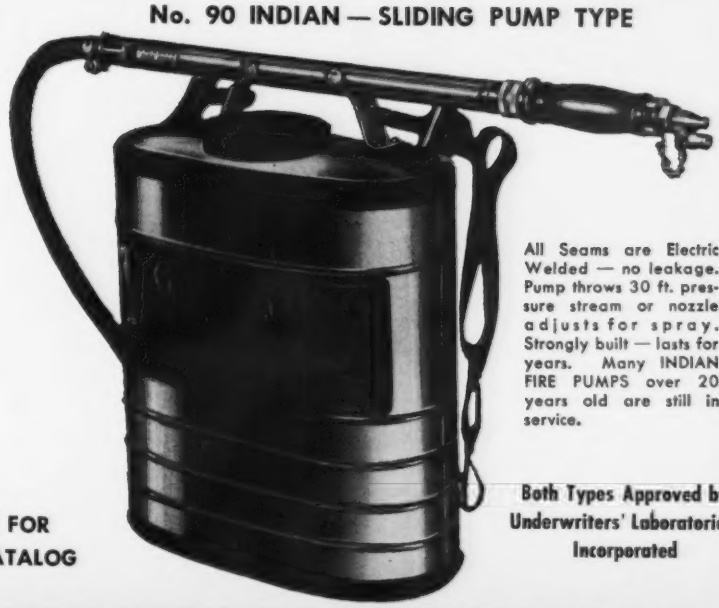
"INDIAN FIRE PUMPS are an indispensable fire fighting tool!"

We are proud of the fact that INDIAN FIRE PUMPS have played a part in enabling the city of Fort Collins, Colorado to win many awards for fire prevention. Members of Engine Co. No. 1 are shown here with their INDIANS.

. 80 INDIAN ER TYPE PUMP AND HANDLE


HEAVY SEAMLESS BRASS PUMP QUICKLY REMOVED
STEEL LOOP HOLDS PUMP LEVER IN POSITION WHEN NOT IN USE
ALL BRASS ADJUSTABLE NOZZLE
PUMP LEVERS HEAVY STEEL
NO. 80
PISTON—HEAVY SYNTHETIC RUBBER FOR LONG SERVICE. EASILY REPLACED.
1-PIECE BRASS PUMP CUP
RUST PROOF PATENTED AIR-CONDITIONED 3 GALLON TANK
TANK MADE OF ARMCO ZINCGRIP STEEL OR SOLID COPPER. ARMCO IS FAR SUPERIOR TO ANY GALVANIZED METAL.

No. 90 INDIAN — SLIDING PUMP TYPE



All Seams are Electric Welded — no leakage. Pump throws 30 ft. pressure stream or nozzle adjusts for spray. Strongly built — lasts for years. Many INDIAN FIRE PUMPS over 20 years old are still in service.

SEND FOR NEW CATALOG

Both Types Approved by Underwriters' Laboratories, Incorporated

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Pacific Coast Branches:

Sharpsville Quality and Improved Design is available to you at the cost of standard apparatus . . .

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STEEL FABRICATORS, Inc.
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BUILDERS OF SERVICE, CRASH AND LADDER TRUCKS • VOLUME AND HIGH-PRESSURE PUMPERS • SQUAD AND EMERGENCY CARS • STORAGE TANKS

Super Vacuum ..... THE ANSWER TO YOUR SMOKE EJECTION PROBLEMS

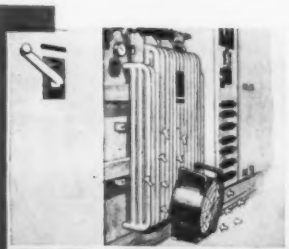
● REVOLUTIONARY NEW PRINCIPLE INCREASES FIRE FIGHTING EFFICIENCY!

● The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.

THE HEART OF THE SUPER VACUUM

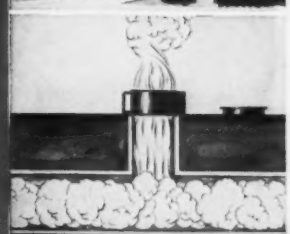
● The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

TYPICAL USES

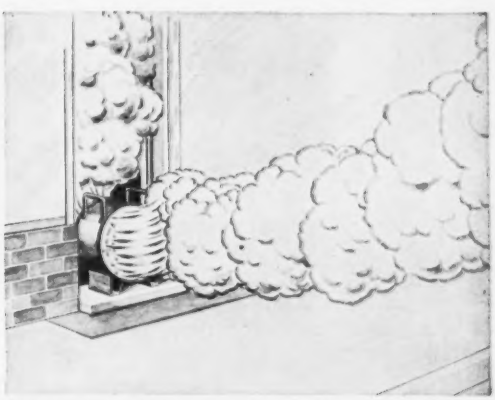


● Super Vacuum ejectors are often used by fire departments in emergencies to cool generators, pumps and motors. The strong discharge of air quickly reduces the temperature to a safe level.

● Fresh air can be forced into a building with or without a deodorant By applying deodorant to a pad and attaching it to the intake face of the Super Vacuum fan, air is pulled through this pad and forced throughout the building. Smoke odors are dissipated and soot is settled.



● Poisonous or explosive gases can be effectively removed from sewers, basements, tunnels and mine shafts with the Super Vacuum Fans. They can be used in any position horizontal or vertical.



● Smoke ejection is a major problem at most fires. Super Vacuum does it faster, cheaper and more efficiently than any similar device on the market. As a Nationally known Fire Chief said recently, "Smoke ejectors are as necessary as fire hose in fighting fires."

Write for Additional Information or Contact Your Local Fire Equipment Dealer

MANUFACTURED EXCLUSIVELY BY

Super Vacuum MANUFACTURING CO., INC.

319½ EAST 17TH AVENUE • DENVER 3, COLORADO

Eastman

SINCE 1824

THE FINEST IN FIRE FIGHTING EQUIPMENT

FOR FIRE DEPARTMENTS AND INDUSTRIAL PROTECTION

CONTACT YOUR DEALER OR WRITE TO US

SAMUEL EASTMAN CO., INC.

CONCORD, NEW HAMPSHIRE

Specify HALE *because the Full Lines of HALE Fire Pumps are:*

- Noted for dependability and high efficiency
- Flexible in performance providing volume and pressure when needed
- Completely Modern . . . and kept modern by constant laboratory and field research aiming for simplicity, efficiency and quality. New, simplified and improved models are always under study.
- Sold only through manufacturers of quality apparatus
- Backed up by a broad line of efficient booster pumps, portable fire pumping units, valves and foam proportioners

HALE FIRE PUMPS are built in all STANDARD CAPACITIES

Write Today for Up-to-date Information on HALE Fire Pumps and Fire Pumping Units. No Obligation.

FIRE PUMPS HALE CONSHOHOCKEN, PA.

HALE Fire Pump Company
CONSHOHOCKEN, PA.

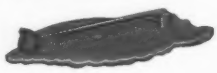
NIELSEN-RIONDA

INTRODUCE THEIR AMAZING NEW METAL

"STA-BRITE"

Polishes for a life-time (like a solid gold badge) to a rich, brilliant gold color. Entire badge body throughout is made of "STA-BRITE" the wonder metal.

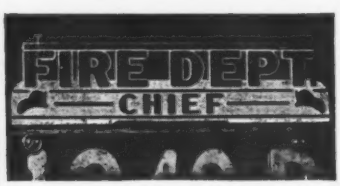
PLUS—all the advantages of superior durability and added beauty of the **Exclusive** NIELSEN-RIONDA solid flat back.



Plus—10 year guaranteed silver fused coat and cap attachments, center emblems and numbers.

Write for free 32 page catalog illustrating badges available in the new "STA-BRITE" as well as all standard finishes.

NIELSEN • RIONDA INC.
40 JOHN ST., NEW YORK 38, N. Y.



IDENTIFICATION SIGNS PERSONNEL — ALL FIRE DEPARTMENTS

Standard made white plastic, FINISHED fire engine RED. CHIEF, ASSISTANT CHIEF, CAPTAIN, LIEUTENANT, DRIVER, ENGINEER, INSPECTOR, CHAPLAIN, VOLUNTEER, MEMBER, PRESIDENT, SECRETARY, TREASURER, POLICE, & AUXILIARY MEMBER.

Priced $1.25 any two names, 65c single

Specially made with your department name, Minimum order of 25 plates $1.50 each, or 50 plates at 88c each

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TOLEDO 5, OHIO, U.S.A.

To Our Readers . . .

EACH year this special issue of FIREMEN magazine is prepared for circulation to all fire departments in the United States and Canada. Because of its proven popularity, publication is timed to coincide with the Annual Conference of the International Association of Fire Chiefs (to be held this year in New Orleans — see pages 16 and 17). Altogether this particular issue of FIREMEN magazine will have a circulation of more than 45,000, including 17,500 U. S. fire departments, 2,000 in Canada and 686 industrial plant and airport fire brigades.

The principal purpose of such circulation is to encourage non-member fire departments to join NFPA and to make continual use and application of the many technical standards, reference books and other information on fire control published by the National Fire Protection Association.

Such circulation would not be possible without the cooperation of the many manufacturers who choose this issue to tell about their products. For our readers the advertisements in these pages display the latest designs in fire-fighting equipment and apparatus. Accordingly, it will be useful for fire fighters and other personnel to compare the basic descriptions and then select the items best suited to their fire departments' needs. If more complete information is wanted on any particular item, a note to the manufacturer will bring prompt reply.

After you have read this issue, be sure to pass it to some other member in your fire department. If your department is not receiving this magazine and other NFPA publications regularly, why not fill out the application blank on the back cover and send it to NFPA? In doing so, you will be joining a fast-increasing group of thousands of fire departments and fire fighters who are taking full advantage of membership in NFPA to improve their technical knowledge of fire combat, fire protection and fire prevention.

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